Genesee Farmer.

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WALKS AND TALKS ON THE FARM.—NO. 16.

I went to Geneva yesterday, to see John Johnston. I told you about his sheep that he wanted Mr. Peters and me to look at. He does not like our classifying sheep as "fine wools" and "mutton sheep." He thinks the fine wools will make excellent mutton, and to prove it, asked us to come and see a lot of Merino sheep that he has been fattening the past winter.

The sheep were purchased last fall, and pastured till the 9th of December, when they were put in the yard to fatten, on wheat straw and oil-cake meal. There were 202 sheep. He intended to feed 200 lbs. of oil-cake per day, but for the first week they only got half this quantity. They had nothing but straw and oil-cake till the 6th of February. They were then quite fat—so fat in fact that he was offered more than 10 cents per lb. live weight for them. He declined this offer, however, and commenced feeding them hay, with the same quantity of oil-cake per day (200 lbs.) as before. He then sold them, to be taken away on the 1st of March, for 12 cents per lb. live weight!

I saw them the day before they were taken away. They had just been weighed. They averaged a little over 117 lbs. each, which, at 12 cents per lb., is over $14 per head. The sheep cost, in September, about $5.50 each. They have eaten $400 worth of oil-cake, and 8 tons of hay, worth $160. They have eaten a good portion of the straw from 18 acres of very heavy wheat—wheat that had straw enough for 30 bushels per acre, but which, on account of the midge, only yielded 18 bushels per acre.

Mr. Johnston says they will eat just as much straw as if they had been fed nothing else. The advantage of feeding oil-cake or grain to sheep, is not that they eat less fodder, but that they lay on fat and shear more wool.

Mr. Johnston thinks the manure is worth five times as much as the straw the sheep have eaten.

Now, how stands the account? Two of the sheep did not thrive well, and Mr. J. sold them for $15. He has still 20 sheep not sold, worth $12 per head. The 180 sold, weighed 21,100 lbs., which, at 12 cents per lb., is $2,532:

Dr.		*Cr.*	
To 202 sheep	$1,110.80		
Paid for pasturing	62.14	Two sheep at $7.50	$15.00
Oil-Meal	400.00	20 sheep at $12.00	240.00
8 tons of hay	160.00	180 sheep at $14.07	2,532.00
	$1,732.94		$2,787.00

This leaves a profit of $1,054.06.

Mr. Johnston has been in the habit of feeding Merino sheep in winter for many years, and has always found it a profitable practice, but this year he has made more money than ever before. Last year, he fed 280 sheep, for which he paid $4.47 each in the fall, and sold them for $8.50 each, making a clean profit of $756.

Now what does all this prove? It proves, 1, that Merino sheep can be made very fat, and 2, that when fat, in the spring, they command very high prices; and, 3, that as long as you can buy cheap in the fall and sell dear in the spring, the practice of fattening Merino sheep in winter is highly profitable.

It may prove, too, that Mr. Johnston is a skillful and judicious sheep-feeder—as he certainly is—but it does *not* prove that Merinos are "mutton sheep." Of course their flesh affords excellent mutton, when well fed, and if there were no other kind of sheep in the world, they might appropriately be called "mutton sheep." But as compared with the South-Down, Leicesters, and Cotswolds, I have yet to see the evidence that they are in any sense mutton sheep.

When I was at Rothamsted, Mr. Lawes had 120 Hampshire Down wethers, that, at a year old, dressed 12 stones, or 96 lbs., each. I forget their actual live weight, but at the usual estimate of one stone live weight (14 lbs.) being equal to one stone dead weight (8 lbs.), they must have weighed alive 168 lbs. each. And this, mark you, when they were only a year old, and some of them not quite that.

Mr. Johnston's sheep are four years old, and weigh 117 lbs. each. How much they weighed when put up to fatten I do not know, but if they have increased 2 lbs. each per week, they would have weighed at that time about 90 lbs.

What I want to ascertain is, how much these sheep had eaten before Mr. Johnston bought them, or before they were put up to fatten. I take it for granted that sheep eat about 3 per cent. of their live weight of hay, or its equivalent, per day. Now what would be a fair average weight for these sheep since they commenced to eat grass? If we start with them in June, 1861, when they weighed say 15 lbs., and a year from that time they weighed 50 lbs., the average of that year would be 32½ lbs. Then, if at the end of the next year they weighed 70 lbs., the average of the year would be 60 lbs.; and if at the end of the third year they weighed 90 lbs., the average of that year would be 80 lbs.

At three lbs. of hay per day, or its equivalent, for each 100 lbs. of live-weight, such sheep would eat:

From June, 1861, to June, 1862, (32½ lbs.)	330	lbs. of hay
From June, 1862, to June, 1863, (60 lbs.)	657	" "
From June, 1863, to June, 1864, (80 lbs.)	876	" "
From June to December, 1864, (80 lbs.)	438	" "
	2,301	

You laugh at the idea of a sheep eating over a ton of hay before he is four years old. I admit that such is not the case in practice, simply, however, because the sheep eat other things besides hay. That such a sheep, if it is not starved, eats nearly this amount of food, admits of no doubt. The food that is eaten may be much cheaper than hay, but that is entirely another question. That a sheep weighing 100 lbs. will eat from 2½ to 3 lbs. of hay per day, is a well ascertained fact, and as a general rule, one weighing 75 lbs. will eat one-fourth less, or in proportion to live-weight. These sheep, before Mr. Johnston got them, had undoubtedly eaten over a ton of hay, *or its equivalent*, per head. What do we get in return for this?

Suppose they shear 5 lbs. of wool each year for three years, or 15 lbs., worth 70 cents per lb. This would be $10.50. Then the sheep sold for $5.50; making $16 in all.

Now let us make the same calculation on a "mutton sheep," say a South-Down or Leicester. If the lamb in June weighed 15 lbs., as we assumed in the former case, and at a year from that time weighed 100 lbs., his average weight for the year would be 57½ lbs. If at the end of six months he weighed 140 lbs., his average weight for the six months would be 127½ lbs. Reckoning that he would eat 3 lbs. of hay per day for 100 lbs. of live-weight, such a sheep would eat:

	Lbs. of hay.
First year, from June, 1863, to June, 1864, (57½ lbs.)	629
Next 6 months, from June to December, 1864, (127½ lbs.)	698
	1,327

In return for this we have one clip of wool, say 5 lbs., worth 70 cents per lb., or $3.50. This is, so far, a poor show, but what is the sheep worth? We have no means of determining this point, but suppose we put him in with Mr. Johnston's flock of Merinos. He will be well taken care of, and though he would relish a turnip occasionally, he will take kindly to the oil-cake, and will give a good account of himself. He now weighs 140 lbs. The Merinos weigh 90 lbs. By the 1st of March the Merinos weigh 117 lbs., and our mutton friend would weigh 167 lbs. I think in Mr. Johnston's hands he would weigh more than this, but I have assumed that he gains no more than the Merinos. He would, however, in fact, eat more and gain more than the smaller sheep. But let us make an even thing of it. How then stands the account?

The Merino sheep, up to the time they are put up to fatten, have eaten 2,301 lbs. of hay, or its equivalent, and the "mutton sheep" has eaten 1,327 lbs. The Merino sheep have given us 15 lbs. of wool, worth $10.50, and the mutton sheep 5 lbs., worth $3.50. Assuming that while fattening in Mr. Johnston's hands, both eat and increase alike, the Merinos by the 1st of March weigh 117 lbs. and sell for $14.04, and the mutton sheep weighs 167 lbs. and sells for $20.04. The mutton sheep eats 1,327 lbs. of hay, and nets ($3.50 for wool and $20.04 for sheep) $23.54. The Merino sheep eats 2,301 lbs. of hay, and nets (wool $10.50 and sheep $14.04) $24.54.

Now a simple rule of three sum will show which sheep affords the best returns for the food consumed: If 1,327 lbs. of hay give $23.54, how much should 2,301 lbs. give? Ans. $40.81. The Merino sheep ought to give us a return of $40.81, while in fact they only give $24.54.

These figures are of course true only in a comparative sense. Were the Merinos better fed they would fat earlier. Mr. Johnston says he has had Merinos that at 1 year and 9 months old dressed 15 lbs. per quarter and had 12 lbs. of rough tallow, and there can be no doubt that Merinos can be made very fat. But it seems unreasonable to suppose that sheep which have been bred for years principally for their wool can afford as much mutton as those which have been bred with special reference to this object.

It is quite true that English farmers do not make anything like such profits in fattening sheep as Mr. Johnston. The fact, however, simply proves Mr. Johnston's sagacity and enterprise. It does not prove that Merinos are better sheep to fatten than the English sheep. The profit is due to the fact that sheep are higher the latter part of winter or early spring than they are in the fall, and that the majority of farmers have not sufficient confidence to avail themselves of this state of things.

If Mr. Johnston depended on the increase of the sheep while fattening, as the English farmers do, his profits would be on the wrong side of the ledger. He buys a 90 lb. sheep at 6 cents per lb., keeps him

three months on liberal feed and makes him weigh 117 lbs., and then sells him at 12 cents per lb. The increase, 27 lbs., amounts to $3.24; but this is by no means what Mr. J. depends on for his profits. The original sheep, *aside from the increase*, has doubled in price, and instead of making $3.24, he makes over $8.74.

It is true that a part of this increase in price is due to the extra condition of the sheep. If they were not fat, they would not bring and would not be worth such a high price. Still, the great reason of the profits of fattening cattle or sheep in winter, is due to the fact that, ordinarily, meat of all kinds is higher in the spring than in the fall.

It is very pleasant to talk to such a man as John Johnston. He is brim-full of agricultural experience, and communicates it freely. He thinks I plow too much land, and that I cannot seed it down too soon. "Get it into grass and top-dress, and you will make more money." The advice I know is good, but how am I to get manure to top-dress? Before I can make manure I must first grow crops, and I am trying to do this by *thorough tillage*. I believe in good plowing and good cultivation. Make the land clean and mellow and it will grow fair crops—and then you can make manure. "*You must underdrain*," said Mr. Johnston. "But will it pay," I asked, "at the present high price of labor?" "Pay; yes, of course it will pay. I have always said a man could underdrain his farm, however large, for $400." "How is that?" I asked. "Drain 20 acres, and the profit from that will give you $400 to drain another 20 acres, and so on till the whole farm is drained." Two crops, he says, have always paid him back the money laid out in draining, and when the land needed it very much, one crop has paid the whole expense. When he first commenced to underdrain, he wanted a Dutch neighbor to let him cut a ditch through a corner of his farm for an outlet. He would not do it himself or let Mr. Johnston do it. He said the land would be "all burnt up the next summer!" Mr. Johnston was compelled to buy this field of ten acres from him before he could get an outlet. He drained it and planted it to corn, and this one crop of corn paid for the underdraining and *the land itself!*

He told me how to kill the Canada thistles on the land I am going to summer fallow. "Plow early in the spring. Harrow as soon as dry. Then let the land lie till the thistles are in blossom, and then mow them down and burn them or put them in the hog pen for manure. After this plow again and turn up the thistle roots—and that will be the end of them."

I was rather surprised to hear him say one thing: "Clover will not pay, except to renovate the land or to raise seed." As his land gets richer he grows more timothy. He sows the timothy seed in the fall with the wheat, one peck per acre, and 10 lbs. of clover in the spring. But if the timothy is sown early in the fall, there is little use in sowing clover, as the timothy will choke it out.

Last summer he wrote me that he had raised a great crop of timothy, but that the story was too big to tell. I asked him about it yesterday. He top-dressed a piece of timothy grass with a compost of hen-droppings, chip-manure and cow-dung. The timothy was nearly six feet high, and as thick as wheat straw, with heads almost a foot long. He weighed several of the cocks, and estimated the crop at five tons to the acre!

Mr. Johnston piles his manure in the spring, and draws it out in September on to grass land that he intends to plant to corn next spring. He plows up the sod just previous to planting. The corn he *drills* in, and thinks he gets more corn, and certainly much more fodder, than when planted in hills. It is a little more trouble to hoe it, but the extra crop much more than pays for it.

In regard to that crop of "scullions" I raised last year, James J. H. Gregory, of Marblehead, Mass., asks: "Was the soil as *firm* as was needed—as heavily manured? Did the weeds choke the crop? If neither of these, then I doubt not the seed was poor—raised from refuse. Such land as you describe (a light, sandy loam) should do well with the manure *thoroughly* cultivated in in the spring." The land was in good condition, but I am inclined to think it was not *firm* enough. Had I rolled it thoroughly before sowing the seed, I presume it would have produced better onions. "Did the weeds choke the crop?" I am surprised, Mr. G., that you dare ask an agricultural editor such a question! Why, sir, I claim to have originated the phrase "Tillage is Manure," and there is scarcely a number of the *Genesee Farmer* in which I have not written something in favor of thorough culture and the destruction of weeds. Did I not say to my Dutch woman, in the language of the immortal bard:

> Go root away the noisome weeds that without profit suck
> The soil's fertility from wholesome onions!

Do you suppose a weed *dare* raise his hated head on *my* farm!

Last fall I had three or four cart-loads of strap-leaved turnips that were pulled up and topped and thrown into small heaps. A severe frost set in, and as they were not covered, I was afraid they were injured. Had they been in the ground with the tops on, I should have had no fears, for turnips will stand considerable frost. I put these frozen turnips in a heap out of doors, and throwed a little straw over them. The others were put in the cellar. I

forgot all about them till a day or two ago, when on examining them I found them sound and sweet, and not in the least shriveled. They kept far better than those in the cellar. The heap was covered with snow, and this had protected them perfectly.

The turnips in the cellar shrivel up and become pithy. Some that had more or less soil attaching to the roots kept much better. I have made up my mind to one thing: To raise more carrots. In the spring of the year there is nothing equal to them for horses. They are also excellent for milch cows, but I question whether, for cows, beets and mangold wurzel are not almost as good, while they can be raised with less labor in weeding, &c.

I have had some correspondence with Mr. J. L. True, of Garland, Me., in regard to his "Potato Planter." I told Mr. True that I did not like to pay out so much money for a machine that I had never seen. He now offers to send me the machine and let me plant the potatoes, and then if I like it I can pay him for it. If not, the machine can be returned. This is certainly fair, and I have accepted the offer. Mr. T. says it will do as much work as twelve men. I intend to plant eight or ten acres of potatoes, and if the machine will work well, it will pay for itself very soon—besides the convenience of getting the potatoes planted at the right time.

A gentleman in Canada wrote me a few days since, wishing to get some seed of the large variety of red clover. Knowing that it was grown to a considerable extent in Wheatland, I wrote to the Hon. John McVean on the subject, and asked him at the same time his opinion of the relative merits of the large and small (or so-called "medium") kinds of clover. In reply, he says:

"The large seed costs about two dollars per bushel more than the small, and as it is a very common practice to plow down the clover every alternate year, or at the most to graze but one year, the small clover is in most general use; as being cheaper, and yielding a more acceptable bulk and quality of hay. And yet, extravagant as it may seem, I am of opinion that if you desire to graze three successive years, you can better afford to pay the market price for the large, than to accept the small seed as a gift. First: The berry of the large seed is perceptibly smaller, and you get at least one-quarter more seed in a bushel, as I have ascertained by actual count on a small scale. Second: If two-thirds of the large seed vegetate and survive, they will do more to cover the land with foliage, and suppress noxious weeds, than three-thirds of the small. Third: Observant neighbors have often expressed the opinion, that the large will carry at least one-quarter more stock. It continues green after maturity. During the last summer's drouth, the large was green until the fall rains, while the small was early shriveled and brown. Fourth: It penetrates the soil more deeply, has a larger root, and consequently yields more vegetable matter and fertility upon cultivation. Graze close until the 5th of June and take off, and the crop of hay is satisfactory in quantity and quality. It is the only clover to sow with timothy for meadow, as the small is dried up before the timothy is fit to cut."

In regard to sowing clover, and in reply to an inquiry on the subject, Mr. McVean writes:

"It is thought well to sow in frosty mornings, before the ground softens, late in March or early in April, as in this case, the seed slides upon the surface, finding the lowest places, where it is most apt to live during a drouth. I have found it most satisfactory to sow about or after the middle of April, as there is usually a time when the land is minutely cracked or honey-combed. Into these cracks the seed enters, and is covered in by succeeding rains. It is well not to sow it in the mud. An experienced person will sow it very well broad-cast, in calm weather. There is in use a drill carried by a strap, and moved by hand, covering ten feet. Also one like it, that is, a long, light trough, moved by and carried upon a wheel-barrow, covering some eighteen feet, both sowing pretty evenly, and useful in windy weather. The last is manufactured in Caledonia, Liv. Co., N. Y. It is desirable to sow plaster early, for the reason that if sowed late, and not dissolved by copious rains, it fails to protect the seed in a succeeding drouth."

These wheel-barrow clover machines are in universal use in England, but I have never seen one at any of our Fairs, and I did not know that it was manufactured in this country, though I have often wondered that our enterprising manufacturers should neglect so useful a machine.

THE *California Farmer* says that the Humboldt Canal, which takes all the waters of the Humboldt river, not only serves the purpose for which it is designed, but also another, which was not thought of. It has been found that the land through which it runs, that was supposed to be an irreclaimable desert, is capable of golden harvests, through irrigation by its waters.

A CORRESPONDENT of the *Country Gentleman* says: "My horses and cows prefer sorghum to any kind of feed I can give them. I have tried them repeatedly, and they will leave the best timothy for the sorghum and eat it up clean."

DRIVE thy business, or thy business will drive thee.

SYSTEM OF ROTATION ON GRAIN FARMS.

This subject is one of great importance, and it is with no ordinary pleasure that we publish the following article from the Hon. John McVean, of Wheatland, one of the oldest, most experienced and intelligent farmers of Western New York. It will be read with great interest:

Editors Genesee Farmer:—What is the most profitable general system of farming for those who have say from 80 to 200 or more acres of grain land; and who, remote from city markets, are limited to cereals and grazing? Satisfactory results during the last twelve years, or more, have led to the opinion that a six years' rotation, three years in clover grazing and three years in grain, a grain crop each year is the most profitable.

If you have timothy meadow enough for hay, bring more than one-third, if you have not, bring about one-third of your grain land into the condition of having been grazed three years; the residue of your grain land being devoted to clover grazing, or hay, or in process of preparation therefor. The three years grazing will give you a heavy and rich soil. If clayey, plow it at the proper time in the fall; if friable, in the spring. The land is too rich for fallow and winter wheat. Let the first year's crop be corn, beans, potatoes, roots, sorgo, broom or broad-cast corn; according to the labor at command and the probable profit.

The third year's crop should be winter wheat or barley, that the land may be seeded not less than ten pounds of clover seed per acre, applying timothy seed in the fall, and only on the low and wet spots, applying plaster *early* in the spring.

The second year's crop, like the first, is flexible, and may be adapted to profit, or to the convenience or necessities of wintering stock. It may be corn, if preceded by beans, and followed with wheat or winter barley. It may be spring barley, peas or oats, or beans, if preceded by corn. It may be winter barley, followed by wheat, or the reverse. Much as the practice of two successive crops of wheat or barley is deprecated, in one and the only instance of trying it, the second crop was 25 bushels of wheat per acre, while the first was only 17 bushels. I seldom sow winter grain after corn, because of the labor involved, occasionally reserving corn enough for the second year, or substituting peas. A crop of beans or peas is desirable in the rotation, as not materially diminishing the yield of cereals.

NATURAL LAWS FAVORING THIS SYSTEM.

First: In addition to the fertility induced by grazing, three years will produce a heavy and rich soil, of unappreciated value, which is the cheapest and most essential basis of fertility. This is a very important point.

Second: Three years is assumed as the longest period of rest that economy will warrant for lands adapted to grain. Two years may be equivalent if the land is assisted by surface manures applied in connection with the grass. During these three years it is claimed that the particles of the soil assume new conditions, becoming, upon cultivation, fine, and more friable, and retaining these qualities during the three years of cropping. However well manured, the particles of most garden soils that are constantly hoed, will be found to vary from the size of wheat to acorns. Seed to clover two or three years, and the above results follow. Old pioneers remember that new land was cultivated with little or no grass, and remained mellow from fifteen to twenty-five years, but finally became gritty and heavy. It is claimed that the benefit of giving land rest has not received due attention.

SOME OF THE ADVANTAGES OF THIS SYSTEM.

You do not commit the sin of stopping grass from growing and trying to get something out of land when there is nothing in it. Impoverished land if well seeded will attain a remunerative fertility, and persistence in the system will improve the land, and enable you, at the smallest cost, to carry all the stock, and raise all the grain, that the land is capable of. Your land, whether open or closed, is doing its utmost in the production of grain or grass, and no time is lost. There is economy of money and labor in seeding but once in six years, and you can afford to do it thoroughly. The third year's crop is not apt to lodge, and the seed takes well,—at least I have not failed in a single instance. *Imperfect seeding and ceaseless tillage are the bane of American agriculture, and are an incalculable loss to the country.* Your manure, coarse or fine, may be applied on the surface at the most proper time, when the grass is short. Your breaking up is done in the fall or spring, when the land is in a proper condition of moisture, and the sod can be well covered in. Subsequent tillage is after harvest, when the land, even if dry, is not hard to plow.

SOME DISADVANTAGES OF THIS SYSTEM.

It is essential to be efficient in teams and labor from harvest time to the close of seeding, whether this be a disadvantage, judge ye? A fallow may be thought necessary to eradicate noxious weeds. I have found that a crop of winter barley is reaped at a good time to check Canada thistles, and that two deep and close plowings in preparation for the third crop has used them up, except on the back furrows. This is the only instance in which I have plowed stubble twice. I think it will pay. Where quack grass infests land, the second year and after the hoed crop is a good time to give it a very thorough fallowing, to be followed by winter grain for the

third year's crop. It may be deemed a disadvantage to the system that some suspension of raising crops is necessary to get fairly entered upon it.

I might say much from experience of the profitableness of this system, of the regularity and uniformity of its processes and proceeds, but desiring brevity, have omited many details.

Doubtless many persons have pursued a system very like this, yet it may be useful to present it, and should you publish this article, I invite your free criticism for the benefit of your readers. Under the debt entailed upon us by this war, it is of the first importance that American farmers should make the most of their means. To create and economize wealth is patriotism, is merit. JOHN MCVEAN.

Wheatland, March 16th, 1865.

DRILLED CORN FOR FODDER.

EDS. GENESEE FARMER: I have just received the February No., and am glad to see the "Corn Fodder" question so well ventilated by the able writer who takes so many "walks on the farm." He does but justice to Mr. Peters, who must have been calculating with the aid of spectacles of a high magnifying power. Mr. P. seems to believe that two hundred tons of green, or twenty tons of cured fodder, can be produced on one acre. He *may* believe it; I don't. But our simple belief on this point does not *prove* anything, and is worth nothing unless we have had *experience*. He undertakes to prove from experience, but he will find that, although his figures are right, there stands a formidable *if* in the way. *If* one foot *will* produce *nine pounds* of green fodder, undoubtedly an acre will produce two hundred tons, but all figuring of an acre's produce from so small a foundation will be found delusive.

EXPERIENCE.

Last spring I planted a small quantity of corn for fodder, especially for summer feed. Some remained uncut, enough to calculate from, perhaps an eighth of an acre. It stood in rows three feet and a half apart, six stalks per foot. My little plot produced at the rate of *one hundred and sixty shocks of fodder and forty double bushels of well-ripened "nubbins" per acre.* Shocks medium size, about like ninety hills of medium corn would make. From experience, I think it would take fifty such shocks, without the corn, to weigh a ton. Forty bushels of corn would weigh twenty-eight hundred pounds, which, added to the fodder, would make about *four tons and a half.* This was on ground which would not have been expected to produce more than twenty bushels of corn, and by the common method of planting, it would not have had more than thirty-five shocks of fodder.

COMPARISON OF YIELD OF TWO METHODS OF PLANTING.

Common mode, hills three and a half feet apart, three stalks per hill.

Twenty-five bushels corn, at $1 per bushel	$25.00
Thirty-five shocks of corn-fodder, at 12½c.	4.38
Amount	$29.38

Thick planting, rows three and a half feet apart, six stalks per foot.

Forty bushels corn, at 80c.	$32.00
One hundred and sixty shocks of fodder, at 15c.	24.00
Amount	$56.00
Common mode	29.38
Balance in favor of the drilling	$26.62

I have credited the common mode with five bushels more than I think it would have produced, and also twenty cents per bushel more, so that I believe I am doing more than honestly by. I have credited the drilled acre with 2½c. per shock extra, as no one who would see the two kinds fed together could doubt that it was well worthy that.

There would be just enough fodder to winter two cows, but fodder and corn together would probably winter three milch cows or two horses.

Twenty-five or thirty wethers could be kept in good condition on an acre. But for breeding ewes it would not do—there would be four times as much grain as should be allowed. More than one bushel of corn fed to ewes generally produces bad effects on the lambs.

Farmers often feed fodder and corn together to fattening cattle. For this it would do as well as large ears, cattle to do their own husking.

For feeding to ewes, the amount of grain might be reduced to one fourth by taking off the largest "nubbins" before shocking. These might be fed to fattening cattle with husks on. Better ground would produce more, but I do not think it would in proportion to its capacity for producing saleable corn. Thicker planting might produce too late a growth, not ripening sufficiently to cure well.

J. H. FOSTER, JR.

West Newton, Westmoreland Co., Pa., 1865.

SCRATCHING POSTS, LUXURIES FOR CATTLE.—Sidney Smith used to say: "I am for all cheap luxuries, even for animals; now all animals have a passion for scratching their backbones; they break down gates and palings to effect this. Look! there is my universal scratcher, a sharp-edged pole, resting on a high and low post, adapted to every height, from a horse to a lamb. Even the Edinburgh Reviewer can take his turn; you have no idea how popular it is. I have not had a gate broken since I put it up. I have it in all my fields."

A CHEAP AND INVALUABLE LINIMENT for sprains or bruises where the skin is not broken. 1 pint of soft soap; 1 pint of good vinegar; 2 tablespoonfuls of salt; 1 tablespoonful of saltpetre. First dissolve the salt and saltpetre in the vinegar, then heat the soap hot and add, stir lively, and it is ready for use.

F. W.

BREAKING COLTS.

In the spring of the year, while the ground is soft and the temper sobered by low feed and a relaxing atmosphere, is the best time to commence handling colts.

In the first place, the handling of colts should not be entrusted to reckless and foolish boys, who will go about it without sense or reason. The education of a colt is like the education of a child, requiring just as much judgment, and more watchfulness, than when the colt or the child come to a better understanding of themselves and those they have to deal with.

The first operation is what is usually termed halter-breaking; but all colts should be handled with the halter from the time they are able to run with the dam, and should need no "halter-breaking." When this is done, the first operation is to accustom the colt to the bridle bit. This should be done with perfect gentleness and progressive application of the rein, so that the colt will understand what is wanted, instead of being astonished by applications which he cannot comprehend. To put a green colt into a bitting tackle, truss up his neck until his chin nearly touches his breast, and thus leave him for half a day to sulk in the barn-yard, is an infernal outrage that ought to be a penitentiary offence. The pain thus thoughtlessly or purposely inflicted is excruciating and inexcusable.

Along with the lessons of bridle wisdom, should come the first lessons in bare-back riding, or riding upon a blanket and surcingle; from which proceed to gentle exercises under the saddle.

The next step is to put the colt in harness, by the side of a steady and reliable horse. The harness should be put on for a while, several times, so he will become accustomed to it, before being called upon to draw in it.

Breaking a colt, is a misnomer; a colt should never be broken, but tamed and educated. A colt that is broken has lost the best qualities of horsehood. A colt that is thoroughly educated has arrived at the perfection of his race.—*Ohio Farmer.*

A NEW FORAGE PLANT.

A COARSE grass, a native, we believe, of Georgia or South Carolina, has been introduced into France, and is attracting much attention. It is called "*Brome de Schrader.*" M. Barral, editor of the *Journal d' Agriculture Pratique*, has distributed 3,000 packages of the seed to cultivators in different parts of France, Germany, Italy and England. It is stated to be a plant that will grow very early in the spring and late in the autumn, and though affording a coarse forage, it is eaten with avidity in the green state by cattle and sheep. We do not know whether the seed is for sale in this country.

RAISING OAKS.

LAST fall you mentioned, in the *Genesee Farmer*, the subject of raising oaks, which I did many years since; indeed, I know two plans, but one may be cheaper than the other. Yourself and friends can try which is thought best. I took half an acre of land and had it trenched two spades deep, at 1s. 6d. per rod. I drew drills 4 feet apart and scattered a good parcel of white oak acorns (1st of March) on them, and covered them over. They came up very well, and grew from two to five feet high, but as I did not side them in with the spade, that is, cut the tap root off, which I should have done, upon transplanting such as I wished to remove, leaving the remainder to grow up for timber, I found that those that had made a tap root had only grown two feet high, while those that had made only horizontal roots had grown five feet high in the *same time*. It was found afterwards, by Commissioners of Woods, that where oak trees were transplanted after having their tap roots cut off, they were as large in 18 years' growth as those planted with their tap root left on were in 45 years' growth. I have not planted either fruit or forest trees with tap root since.

I shall now tell you of another plan: An Englishman wished to raise a wood of timber with brushwood. He took a field of eleven acres and made it fallow with divers plowings, harrowings, &c., as usual; sowed it with wheat, and then sowed it with 2½ bushels per acre of white oak acorns, harrowed them in with the wheat, got a fine plant of both, and at harvest time reaped the wheat without cutting the tops of the oak plants. He then shut the field up for 18 years. He then cut the underbrush out for faggot wood, kindling fires, &c., which he sold, I think, for £7 or £8 per acre, or sufficient to cover all expenses. He selected, I think, eight, ten, or twelve hundred of the handsomest plants, to produce finest timber, leaving the stumps of those cut down to produce future crops of brushwood, to be cut down every sixteen years, for various purposes, as directed by the owner or a wood ranger.

Here we have a different climate. But as all houses, gardens, orchards and buildings ought to be sheltered from east, north and west, by plantations, as done in England, I think if it is to be done with oak plants, an acre, or any quantity of land near a premises should be summer fallowed and stetched up, and ten feet wide at best, then as soon as the acorns can be procured, draw two furrows on each stetch, five feet apart and three or four inches deep, to prevent the young plants being frozen out the first winter, which I have seen done; then, when the plants are four or five feet high, some may be transplanted, leaving them some five feet apart each way all over the ground, and in eighteen years took

each one out good for some purpose, such as sheep hurdles, ledge hurdles, split ledge gates, &c.

Cedars are a good shelter, and very useful as well as ornamental, but good oaks pay much better, and will always be wanted and command a high price.

South Cayuga, C. W., 1865. R. F. C.

THE FACTORY SYSTEM OF CHEESE MAKING.

Our friend Mr. Harris, of the *Genesee Farmer*, thinks that the Factory System of Cheese Making can only continue profitable while the premium on gold sustains the present price of the article. He says:

"The average price of cheese sold by the different factories the past season, must be taken at 20 cents per pound. With gold at $2.25, which may be taken as the average of the past year, this would give us not quite 9 cents per pound for cheese in specie. The extra 11 cents per pound now obtained is purely fictitious. Take this away and where would be our 'cheese factories?'"

In our last "Foreign Notices" we quoted a statement from the London *Mark Lane Express*, to the effect that the actual cost of production for cheese in England, is rather above than below 5d. or 6d. a pound. Taking this as 10 or 12 cents of our money, we think we might fairly assume that our cheese, *if of a quality such as to command the full price of good English cheese*, would be sure to sell in that market *at least* for the price above named. But allowing for freights and profits of dealers, and taking 9 cents as its probable home value,—if the cheese made in factories is sure to obtain this price, while that made in the ordinary way will not average perhaps more than 6 to 8 cents, we confess we can see no reason why the one cent per pound paid the factory for making, will not then be as good an investment as it is now. The average price of cheese in New York for twelve years past, according to the table appended to the last report of the Secretary of the Treasury, have been—taking the two months of February and August:

	Feb.	Aug.		Feb.	Aug.
1851	6@ 7	4@ 6	1857	11@—	5@ 9
1852	6 7	6 —	1858	6 7	4 8
1853	8 9	8 —	1859	8 10	6 8
1854	10 12	7 9	1860	9 11	7 10
1855	9 10	6 9	1861	9 10	5 7
1856	9 10	6 9	1862	5 7	4 8

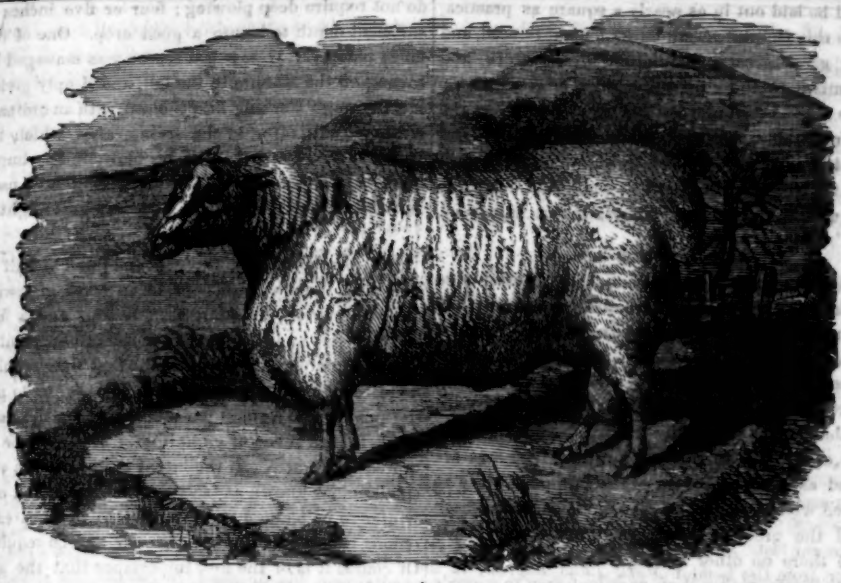
During these years the price has been more frequently below than above 9 cts.; and it has been a price, we think it fair to assume, as a general rule, created by *the home market*—not by the demand for export. Thus, in 1859, and again in 1861, it touched 2 cts. a pound in the month of July; in 1858, 3 cts. in August; in 1862, 4 cts. in the same month; and at some time during the summers of the other 12 years, it went down as low as 6 cts., except in 1853, when the lowest price was 8 cents, and in 1860, when the lowest price was 9 cents. Such are the fluctuations to which the home market is subject; and if, as we do not think it too much to hope, the factory made cheese will command a uniform price, based upon the actual cost of production abroad, of at least 9 cts. per lb.—or even of 8 cts.—the difference in its favor over that sold in the home market, when unsustained by a foreign demand, would vary all the way from one to six cents per lb. during the season of production.

The question, as we have before said, appears to us to hinge mainly upon the point of *quality*; and the great danger to the factory system arises from the chance that in the demand for managers, inexperienced and unqualified persons will assume that post, under whose control the product, instead of being constantly brought more nearly to the foreign standard, may be allowed to run back to something like the old average of home-made cheese. As to the cost of carrying the milk to the factory, our cotemporary overlooks the almost universal arrangement now adopted, by which the same team carries the milk of all the farmers in a certain beat; but admitting his figures to be correct, we believe the labor and cost of carrying the milk to be less than that of making the cheese in the house, and as above stated, that with the exception of a few of the most careful and skillful dairymen — taking the average of the dairy farmers—the larger price received for the cheese made at the factory will more than make up for the charge involved. One cent a pound covers this charge, in ordinary times—the proposition to increase it arises merely from the temporary increase in the actual expenditure for labor, &c.—*Country Gentleman.*

We give the remarks of our esteemed contemporary entire. The subject is an important one, and we should be glad to have it thoroughly discussed.

How to Move a Sullen Ox.—"Did you never observe," said a plain man, a friend of ours, a few days since, as we were driving a dog out of the cow pen, to prevent his taking refuge behind us—as the cows took him by turns to chase him over the lot—"did you never observe that a cow never will make friends with a dog?" "Often." "Well, the best way you ever tried to make steers rise when they get sullen, and lie down, is just to bring a dog and drop him down on them. It will make them jump up when nothing else in the world will."

Shrinkage of Hay.—The loss upon hay weighed July 20th, when cured enough to be put in the barn, and again February 20th, has been ascertained to be 27½ per cent. So that hay at $15.00 a tun in the field is equal to $20.00 and upward when weighed from the mow in winter.



COTSWOLD SHEEP.

We have the pleasure of presenting the readers of the *Genesee Farmer* a cut of a Cotswold Ram belonging to William Lane, of Broadfield Farm, Northleach, England. "At the great Battersea Fair, the Cotswold hillmen furnished," says the *Mark Lane Express*, "*the* feature of the sheep show with an entry of ninety strong. The old rams were an admirable lot, and Mr. Lane's first ram perhaps at all points the best sheep of the show. He was certainly considered by many breeders the finest Cotswold ever exhibited, and, with such a character, was well worthy of being portrayed as a sample of his sort. Standing famously on his forelegs, and with a wonderfully straight and wide back, a good head, and of a very superior quality, he easily separated himself from all the Garnes, Mr. Handy, and others could achieve in a very good class of old rams. It may be a point of some interest to add that the best Battersea ram was a twin sheep."

A Cheap Fence.—One way to "save the fragments" of a nearly used-up rail-fence, is to take the crooked, broken, and partially rotten rails and cut them into half-lengths, and then make every other length of the short rails. A rider, with stakes cross-

ing the center of every long length, would add materially to its strength and permanence. Such a fence will last several years, and answer in the room of a better one—a consideration worth while in these days of scarcity in fencing materials.

ONIONS, AND HOW TO RAISE THEM.

James J. H. Gregory, of Marblehead, Mass., the well-known gardener and seed-grower, has published a treatise on the cultivation, gathering, storing and marketing of onions, which, from its plain, practical directions, must prove useful to those about to engage in this profitable branch of farming. The subject is treated on under the following heads:

SELECTING THE SOIL.

Onions thrive best when sown year after year on the same land, except that they are more liable to injury from rust. Mr. G. says he recently examined an acre of ground where onions have been planted continuously for three generations, without perceptible decrease in the quantity or quality of the crop. "Onions can be raised on a variety of soils, but yield the most satisfactory returns on a sandy loam, a gravelly soil, or, to state a general rule, on those soils which are light in structure. As onions are brought on the heavier soils, the first effect will be a detereoration in their appearance, the outer skin of the yellow varieties losing its fine, clear, translucent yellow, and becoming thicker, duller, and less attractive in appearance. If planted on a wet, or very heavy soil, the crop will mature late, if it matures at all, giving a large proportion, of that dread of the onion farmer, scallions, or 'scullions,' as they term them, meaning those whose growth runs mostly to neck, forming little or no bulb or bottom. The area of land selected should be free of all large stones, as such interfere seriously with the straitness of the rows, the planting, hoeing, and general cultivation of so small sized a product. The land

should be laid out in as nearly a square as practicable, as this facilitates estimates of manure, seed, and crops, gives greater regularity to the work, and economizes in the cultivation of a crop which requires a great deal of passing over. To protect the crop from the washing of heavy showers, the land should be level or very nearly so, otherwise a rush of water will bare the roots of some, and heap the earth around the necks of others, to the injury of each."

PREPARING THE SOIL.

The great point is to get clean land. Better give up planting for a year, and thoroughly summer fallow, rather than sow on weedy ground. "In the Eastern States it is found, as a general rule, that success with the first crop of onions is affected by the crop which grew in the land the previous year, and that onions will follow carrots better than any other crop; next to carrots, corn and potatoes are ranked as good preparers of the ground, while to succeed well with onions where cabbage has been raised the previous year, is comparatively rare. Were there no other reason, the clean tilth which carrots insure, makes it an excellent crop to precede onions."

THE MANURE.

"Onions require the very best of manure, in the most tempting condition, and plenty of it. Guano, pig manure, barn manure, night soil, kelp, muscle mud, superphosphate of lime, wood ashes and muck are, either alone or in compost, all excellent food for the onion. Old onion ground, to maintain it in first rate condition, should receive from six to eight cords of manure to the acre, while new onion ground, to get it in first rate condition, should receive from eight to ten cords of manure."

Night soil composted with three parts muck or loam is excellent for onions. The heap should be turned and worked over till it is light and fine. But barn-yard manure should be thoroughly decomposed and worked over till it is very fine. This latter point is of great importance.

Mr. G. says that when Peruvian guano was sold at $60 per ton, no artificial manure was found so profitable as this for onions. It was better to apply twice, once at the time of planting, and again sown broadcast when the onions were about half grown. Superphosphate, he thinks, should also be applied twice. The results, he says, are not always satisfactory, but he has seen 800 lbs. applied to the acre produce as good results as seven cords of rich compost, applied side by side. We think 800 lbs. of superphosphate, if it is a good article, is about twice as much as is necessary.

PLOWING.

"The farmer who brings up the sub-soil on his onion bed, will find he has made a mistake. Onions do not require deep plowing; four or five inches is sufficient depth to insure a good crop. One of the finest pieces Mr. G. saw last season was managed by carting on the manure in the fall, and simply giving it a thorough working into the soil with an ordinary one horse cultivator, in the spring, after which the land was raked and planted, no plow, or any implement other than the cultivator having been used. In this instance the soil was naturally quite light."

THE SEED.

"In some localities, three pounds and a half of seed was thought sufficient to an acre; afterward this was increased to four, then to four and a half, and now five and six pounds are sometimes planted. Land that is planted to onions the first time requires more seed than old land. If it is designed to pull the onions when small for bunching for the early market, then seven or eight lbs. of seed will be required for an acre. If the intent is to raise the very small onions known as 'setts,' which are stored over winter to be planted in the spring to produce early onions, then a much larger quantity will be required. Of course it is of the first importance that the seed should be reliable." The usual test is to place it in water, the good seed sinking. Mr. G. says this is not always reliable. It is better to test it by putting a hundred seeds or so in a moist woolen cloth, fold the cloth together and put it in a moderately warm place. The good seed will sprout, and you can thus ascertain what proportion will fail to vegetate.

WHAT KIND OF ONIONS TO PLANT.

The three standard varieties in the United States are, the large Red, Yellow and White.

The Large Red is commonly known as the Wethersfield Onion. It is divided into four varieties, viz: 1. *Late Large Red*, a very large, thick, late onion, attaining a diameter of from three to six inches, and on the fertile prairies of the West, not unfrequently eight inches. 2. *Early*—Somewhat flatter than the former, smaller, and matures earlier. 3. *The First Early*—Still flatter, smaller and earlier. Matures the last of July. 4. A globe variety of Early Red Onion, of good size and flavor, and of a light, handsome red color. It is difficult to get the seed pure.

There are also four varieties of Yellow Onion, of which the Yellow Flat, called also Yellow Dutch and Strasburgh, and in the Eastern States the "Silver Skin," is the parent. These varieties are, 1. *The Common Flat*, (incorrectly called Silver Skin, which properly belongs to the White Portugal.) 2. *The Early Cracker Onion*—the great objection to which is that it bruises as easily as an apple. 3. *The Early Round Danvers Yellow Onion.*—The Danvers is an early onion, maturing within a week or ten days of the Early Red or Cracker Onions. It is very prolific, and, like the Red Globe Onion, gives

larger crops by about one-third than the flat varieties. It also commands a somewhat higher price than the red varieties.. 4. *The "Dave Warren,"* a variety of the Early Round Danvers, a very desirable sort.

INTERMEDIATE ONION.

A variety half way between the Common Flat and Danvers Onions—flatter than the latter and thicker than the former. "It probably originated from the efforts of growers, some years since, to produce an onion that should be more oblong, more egg-shaped than the Danvers, that they might add still more bulk to their crops. The result of such a wide departure from the normal form, during a very wet season, was to make quite a proportion of the crop scallions; upon this they went somewhat to the other extreme and produced the Intermediate Onion, though no variety is more free from scallions than the true Danvers. Mr. G. says he has seen acres of them, on which not a peck of scallions could be found, the entire yield being well matured, of fine size and finely shaped. The Intermediate Onion is about as early as the Danvers, grows very symmetrical, is very compact and handsome, crops well and keeps well. A casual observer would notice but very little difference between this and the true Danvers."

WHITE PORTUGAL.

"The cultivation of this early onion is mostly confined to the raising and planting of what are known as 'setts' or button onions, or onions for early family use, as it is a very poor keeper. It is a sweet, mild onion, of a good size for family use, though averaging considerably smaller than the varieties that have been described. Mr. G. says that for family use, except for frying, the common onions of the market are much too large to be economical—the two outer layers of an onion three inches in diameter and upwards, though making up about half the bulk of the onion, are usually coarse and tough, and slough off when boiled. The sweetest, tenderest, and most economical onion for this purpose of the yellow sort, are those that are from one to two inches in diameter."

On the whole, Mr. Gregory thinks the Danvers Onion the most profitable variety to grow. He has known 900 bushels raised on an acre.

SUMMER-FALLOWS FOR WHEAT.—Geo. S. Rogers, of Delaware, C. W., in a letter to the *Country Gentleman*, says: "I may say, from my experience, that the best crops of fall wheat I can raise, are from ground only once and deeply plowed, and afterwards cultivated twice or three times." This is the opinion of many good wheat-growers in Western New York. We have still a liking for the old-fashioned summer-fallows. What say our readers?

AGRICULTURAL IMPROVEMENTS—NO. 2.

THIS seems to be the disposition of the great mass of the farming community throughout these New England States. They seem to be dormant on the subject of self-improvement. And why is this? Simply because that farmers must go on the principle of "every man for himself;" and the whole aim of the farmer's life, while in this world, is *struggling for the "almighty dollar."* You talk with many farmers on the subject of education and improvement, and what will they tell you? They have no time for reading, or study—which is a fallacy as transparent as a *down-east fogy*. If they would be candid, they would say it was for a want and disposition and mind to do so. They would hit the nail plump on the head.

Now this want of time is all *gammon*. You farmers have the most time for self-improvement, and should be the best educated of any class of men under heaven. If perchance there should be a political "caucus" called, to be held at the tavern, how eagerly do they rush in to talk of Congress, Legislature, &c. Then before adjournment take a drink of the animator, light pipes, and then count *noses*, to see how the vote will go at Town Meeting. Then just post up a call to organize a Farmers' Club in the district school house, and then adjust your glasses and be ready to count the number of these patriotic farmers who are in attendance. Now all must admit this is no fancy sketch, but a stubborn fact. We do not make any pretensions as to being endowed with the spirit of prophecy, and we are well satisfied, from personal observation, that there is a great neglect and want of stimulus in the mind of the farmer, for his improvement in agricultural science.

In fact, we believe that the time has come when more must be said and written on the *improvement of the mind* as *well* as the *soil*. Practical agriculture, the farmer has always had, and shall always have, as long as the soil is cultivated, although the kind and quality will depend on the character of the farmer. But practical farming does not of course bring with it a corresponding improvement of the mind. But, alas, "tell it not in Gath," &c., that the improvement of the mind consumes too much time, and does not bring along quite *so big a pile of greenbacks* as the other system, and of course it must be dispensed with.

We have been brought up to labor on the farm, hence we feel a lively interest in every movement made to elevate the farmer. The farmer in this day in which we live need not be ignorant. There are works issued from the press that just meet the wants of our farming community, (we allude to that old pioneer, the *Genesee Farmer,*) freighted each

month with articles tending to the improvement of the mind; and yet how many families are destitute of its monthly visits. And why? Oh! they can't afford it; and yet, will you believe it, they spend five dollars a year for that poisonous article, *tobacco*, which undermines the constitution, and spend their long winter evenings dozing in the chimney corner. If they show any vitality, it is in rousing to take a smoke. Why, farmers, will you let these golden oportunities flit away, and that mind become a wilderness, when, by self-improvement, you might have been a *Clay* or *Webster*, and the nation been swayed by your eloquence. This theme of self-culture is too much neglected among the farming community. Young man, do not think because you have left the old school house, there is no chance for improvement. It is an error. You have gone forth into the great school-room of Nature, and if you have a mind of any capacity, you can *learn*. *Learn*, improve every leisure moment in study, and you will never regret it. J. L. HERSEY.

Tuftonborough, N., H., 1865.

TO PREVENT ABORTION IN COWS.

MAKE use of none but strong, healthy bulls, of not less than two years old. Keep the cows confined as little as possible; that is, a certain amount of exercise is essential to perfect health, even in this direction. When such an accident takes place, remove the cow *instantly* from the rest of the herd, even out of hearing, of the remainder of the cows. If such accidents were common among my cows, I would quit stabling them in close confinement, or not allow them to stand in the stalls except in the night, and make the nights pretty short at that.

I would also remove cows farther from each other in the stalls, and saw the tips of the horns from all the cows, or put on buttons, or both, so that they would not suffer from fear. This should be done whether we stable cows or not.

Salt increases the quantity and perhaps the quality of milk, and some dairymen are sharp enough to increase the salt more than the feed, which must weaken the whole system. P. F.

Wellsburg, Chemung Co., N. Y., 1865.

QUALITY OF DIFFERENT KINDS OF WOOD.—The celebrated experiments of Marcus Bull, of Philadelphia, many years ago, gave the following results, showing the amount required to throw out a given quantity of heat:

Hickory	4 cords.	Pitch pine	9 1-7 cords.
White oak	4¾ "	White pine	9 1-5 "
Hard maple	6¾ "	Anthracite coal	4 tons.
Soft maple	7 1-5 "		

From this it would appear that there is less difference between hard and soft maple than is generally supposed.

NOTES BY S. W.

I WISH you would tell us in the April No. of the *Farmer*, how to make ground bones into soluble superphosphate with sulphuric acid—what proportion of acid and water, and how much water to the acid. My son Horace, near Buffalo, grows seven acres of cabbages, and as animal manures are scarce and dear, he wants to try the effect of the phosphate of lime. They have a bone mill there which grinds the bones tolerably fine; but as he wants the immediate effect of the manure, it is important to know how to make it soluble.

Joseph Wright has reduced his horses to about 50, including colts, but he increases his stock of bovines, feeds all his corn, 1,800 bushels, and cuts fine all his corn stalks. His Dent corn ripened quite as early as his Dutton, yielding one-third more, and henceforth he will plant the Ohio Dent only. He grows corn in drills, sowing it early, so as to have it fit to cut up in early August, to soil his milch cows as his pasture fails. He says it must form ears nearly ready to glare before the stalk has its maximum sweetness. If cut earlier, it is either insipid or bitter. Although this was a backward corn season, Wright never had a better crop. On eighteen acres, he had not more than three bushels of soft corn. He cut it up and stacked it as soon as the ears had glared, to save the stalks with their leaves and juices intact. If pains taking and manuring will not pay in the corn crop, light manuring and poor tillage is ruinous. A farmer confessed to me that if he had planted one-half less land, and put on the same labor and manure, he should have got double the crop he did this year; the result was, he had not corn enough to fat his hogs, and had to kill them on the 1st December, when they sold at 14 cts. per lb. only. Had he kept them until New Year's day, they would have sold at 17 cents per lb, and the increased weight added would have nearly doubled his profits in pork making, to say nothing of the loss in the use of his badly used corn field.

Why don't our farmers go into the Chinese Sugar Cane growing? It does first-rate in our climate, and it will be long before we will get sweetening within 50 per cent. of former prices. Sorghum now sweetens the whole country west of our old fogy State.

The March No. of the *Farmer* is very interesting in practical matter. I learn by that letter from St. Peters, Minnesota, that they grow the Dent corn successfully, although the growing season is shorter there than it is here. I am told that they have none of our cold, wet spells in late May and during the month of June, but more uniform heat and moisture during the growing season. Hence, no wonder that your correspondent can beat Cortland Co. in this State, "*all to pieces*," in corn growing, at

St. Peters. Thus it would seem that a kind Providence has compensated Minnesota for her Siberian winters, by a uniformly warm, kindly, and growing summer. Per contra, California has a mild winter, a volcanic soil, rich in all the mineral elements of plant food in soluble form. Yet with her monster sylva and her spontaneous cereal crops, all her farmers who cannot irrigate from the mountain streams, are often reduced to short rations by long protracted droughts; and in her best seasons, the king of American cereals, Indian corn, is a very short, inferior crop. S. W.

Waterloo, March 13, 1865.

To make superphosphate from bones, you require to each 100 lbs. of bone-dust, about 50 lbs. of common oil of vitriol, and from 50 to 75 lbs. of water. It is generally recommended to mix the water with the acid before applying it to the bones, but it is better, ordinarily, to pour the water on to the bone-dust, and mix it thoroughly, till the whole heap is evenly saturated, before applying the acid. The heap must be repeatedly stirred. The principal point is to get the proper quantity of acid and water in *direct chemical contact* with the proper proportion of bone-dust. Any means which will do this will make good superphosphate. We should prefer, especially if the superphosphate is needed immediately, to "boil"—as we have heard it designated—about 50 lbs. of bone dust at a time, in a half-barrel or other vessel. Put in the 50 lbs. of bone-dust and 25 to 30 lbs. of water, mix thoroughly, and then pour in 25 lbs. of acid and stir briskly for a few minutes, till it is evenly mixed. Then throw it into a heap and repeat the process. This is more trouble than to mix a large heap at once, but it will make a better article and it will be ready for use much sooner. We think there is a better prospect of our getting sugar from beets than from sorghum.

SUMMER FALLOWS TO DESTROY WIRE WORMS.—In the February number of the *Genesee Farmer*, you give Mr. Adams' plan for exterminating the wire worm. He is quite right. I and others here have done the same thing. I was also recommended to turn under a crop of buckwheat. I confess I laughed at it, but I did so, nevertheless, and though I did it seven years ago, I have never seen a wire worm since where the buckwheat was turned under, and it is still the richest part of the field.—WILLIAM COOK, *South Cayuga, C. W.*

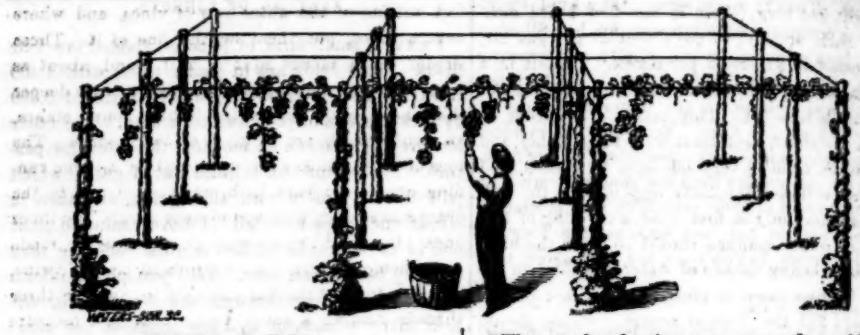
A WRITER in the N. Y. *Evangelist* contends that there is nothing gained, except extra labor, by planting potatoes in drills. He prefers to plant in hills. The object should be, he says, to get few and large plants in a hill. On the other hand, some of our most experienced potato growers think they get much larger crops by planting in drills.

CULTURE OF CARROTS.

I HAVE a small farm, of 24 acres, divided into four fields. Two fields are in peach trees, with 1,400 trees, five and six years old, which produced 3,300 ½ peck baskets of peaches last season. The other lots are in grass, one for mowing, the other for pasture. The pasture lot is quite out of grass, which will have to go in corn this spring, and then in wheat and grass next fall. I have a mind to plant one or two acres in yellow carrots, believing they will pay better than corn. Will you please inform me on the subject, through the *Genesee Farmer* how many pounds of seed are required per acre; when and how the seed should be planted, kind of manure, &c. The land is clay, with a deep soil, matted with short blue grass, (the clover and timothy worn out.)—JAMES PRICE, *Cecil County, Maryland.*

Three lbs. of seed, if evenly sown, is sufficient, though when sown by hand, 4 lbs. is generally required. Sow as soon as the soil is dry and warm, and can be got into good order. As weeding is the principal expense, great care should be used to get the land smooth and level. This will save much time in hoeing. As the land is plowed, go along each furrow with a rake, and see that the manure and sods are all covered, and make all smooth and nice. A marker, with teeth 14 inches apart, can be used to make the rows. They should be half an inch deep. Into these the seeds are sown by hand. If a drill is used, the marker will not be necessary, but care should be used to make the rows straight. Soak the seed for two days before sowing, in warm water, and dry it with plaster till it will separate. Cover the seed with a roller or with a rake. If the weather is favorable, the plants will be ready for hoeing in three weeks. Pass a hoe lightly through the rows, to loosen the soil and kill the weeds. In a week or ten days hoe and weed again, and thin the plants where too thick. In two weeks more hoe again, as deep as you can without hurting the plants, weed and thin out, leaving but one plant in a place, six inches apart. This will be all the work that is needed, unless weeds should grow. These *must* be destroyed, or you will not have a full crop. Five hundred bushels per acre is a good yield, but from 800 to 900 bushels are sometimes raised. If you could put on a barrel of Baugh's raw-boned superphosphate per acre, it would be a great help. Sow it broadcast after the seed is drilled in, and cover it with a rake.

A CORRESPONDENT of the *Country Gentleman* says: "Those farmers who know the ill effects of working land wet, avoid it as they would a pestilence."



CULTURE OF HOPS.

We make the following extracts from a valuable Essay on the Culture, Drying and Baling of Hops, in the last number of the *American Agriculturist*. It is from the pen of Herman C. Collins, of Morris, Otsego Co., N. Y.:

"Varieties.—There are many varieties of hops cultivated in this country, but English Cluster and Grape Hops succeed best. The Pompey Hop is very large, with long arms, but it is more injured by rust and insects than the first mentioned, on which the hops hang in large clusters; both are early varieties.

"Soil and Situation.—The situation for a hop yard should be such that there is a free circulation of air—never by thick woods in a valley, for there rust, blight, mould, and lice most abound. They should have plenty of sunshine, which is the surest preventive for all these. The soil should be dry in winter, and have no water on the surface at any time. If not naturally rich enough, it can be made so by manuring. Any soil where good crops of corn or potatoes can be grown is suitable, but it should be easily worked and kept mellow, as there is much cultivation to be done. Where wheat will not grow, the soil must have lime, if hops are planted. In central New York, they are raised on very high land, where none but the smaller varieties of corn will grow.

"Planting.—The best time to plant a hop yard is in the spring, as early as the ground can be worked. The ground should be plowed, and made as fine and mellow as possible; then stake it off, and either mark it out with a plow or line it, and plant with a 'dibble,' which is the surest way to have the plants all live. Corn, potatoes, or any other hoed crop, can be raised the first year with the hops. The rows should never be less than eight feet apart, and on the rich bottom lands of the West, nine or ten feet is better. Make the hills the same distance apart both ways, and the rows perfectly straight. It is a great mistake to have the hills crowded, as they often are in some yards, to seven feet each way, or even less.

"The sets for planting, are runners from old vines, which can be had from any old yard. Care must be taken to keep the sets from *male* plants separate from the others. The hop is a *dioecious* plant, that is, having the staminate or male, and pistillate or female flowers, on separate plants. There should be about one male hill to every eight hills, each way, or one in sixty four, making from eight to twelve to the acre. These hills should be marked by a stake at planting, to enable one to distinguish them at a glance. The sets should be cut to two pair of eyes each, (if very short-jointed, three pairs of eyes may be left,) and three to five of these should be put in a hill, according to the condition they are in. They are usually planted in a furrow made by a plow, which must be from two to four inches deep, according as the soil is light or heavy. If planted too deep, they will not come up well. Sets are usually sold by the bushel; two to three bushels for an acre. When yards are planted with good, fresh sets, and it is done early, there is very little risk of failure. Often large yards are planted without losing a single hill. When the ground is very mellow, with but few stones, dibble the holes just deep enough to let the sets be under the ground, and three or four inches apart; press the soil around them, and mark the place with a stick.

"Cultivation the First Year.—The cultivation consists in keeping the weeds down, and the ground mellow. One day's work in season, is better than two later. If good sets are used, and they are planted very early, it will pay to raise a crop the first year, and the plants will be the better for it. Set one stake to each hill, and let *all* the vines run upon it. The stake should be but eight feet long, and set one foot in the ground; if longer than that, the vines will not get to the top in season to "*hop*" well. It is best to stake the plants, because then they are out of the way in cultivating the yard, and do not get torn off. We raise from 200 to 400 pounds to the acre the first year, at no cost, except picking and drying, besides the cultivation, which must be done if none are raised. The stakes may be pieces of old hop poles, or better, 1½ inch square sawed

stuff, eight feet long, (there is one foot board measure in each stake.) It pays well to get gas tar, which costs but $1 or $2 per barrel. Heat it in a pan made for the purpose, and dip the whole stake into it while it is hot. This makes a firm coat of paint on the stake, protects it from the weather, and at the same time is very offensive to insects, and plant lice will not lay their eggs on it in the fall. In the autumn of the first year, a covering of two forkfuls of coarse manure should be given the hills, and if there is any chance of water standing on the surface, furrows must be plowed for surface drains, for it will kill the hills it covers. Cattle should never be pastured in hop yards in the fall, especially not in young yards. There should be no grass for them to eat, though there too often is.

"TRAINING.—Throughout the hop region of New York, young trees have been cut, for many years, for use as hop poles. This has gone on until the price has risen from two or three cents to twenty or thirty cents each, and large quantities are brought from Canada, and the wilderness of Northern New York, by canal and rail, and then drawn with teams to the yards, frequently from ten to twenty-five miles. Hardwood poles last from two to five years, the best cedar poles but ten, and many poles break down with their load, or are broken down by the wind every year, which causes a total loss of the hops on them, and frequently on one or two adjoining poles. The common method allows two poles, eighteen to thirty feet long, to each hill. Being so long, the wind whips them, breaking off many of the arms, so that often a considerable part of the crop is destroyed in this way. When the crop grown upon the poles is picked, many hills are killed, and all are injured by bleeding of the vines, which must be cut off.

"HORIZONTAL HOP YARD.—There is a new method in vogue in this State, which has been used in Otsego Co. to some extent for three years past, and the last year it was used all through this, and in some other States, viz., 'Collins' Horizontal Hop Yard.' I shall confine my directions for raising hops mostly to this plan, as I consider it as far superior to the common plan, with long poles, as the Mower and Horse-Rake are to the haying implements used by the last generation. There is but one stake to the hill, and this eight or nine feet long, and set one foot in the ground. The best and cheapest stakes are 1¼-inch square sticks, sawed at any saw-mill, left rough, and entirely coated with coal tar. Where this plan is introduced into old yards, old poles, cut in two, are used; yet it is far better to use the square stuff above described, than to cut down a tree for each stake.

"The outer row of stakes should be eight or ten feet outside of the outer row of vines, and where next a fence, put them on the line of it. These should be 2½ inches square, or if round, about as large as a common hop-pole, and set a little deeper than the others. For the inside hills, round stakes, an inch through, are as good as larger ones. The tops of all the stakes are connected by a twine running across the yard both ways—it is tied to the outer stakes only, and wound once around the inner ones. Use good twine—wool or broom twine, made out of hemp or linen. At the present price of twine, it is best to raise the flax and spin it; two or three threads making a small twine that will measure about 700 feet to the pound; this is strong enough, and lighter is often used, and if tarred with good pine tar, it will last several years. Tarred hemp twine at present costs 25 to 27 cents per pound at wholesale in New York, and from 35 to 40 cents through the country. A kind should be used that will not weigh more than 25 pounds per acre; but I like best a good home-made twine, at about 15 pounds per acre. The cost of twine is at present from six to ten dollars for an acre, but four years ago it cost only three or four dollars.

"At the male hills, put one tall pole about 18 feet long, so that the male vines will run up it, and the wind can blow the pollen over the yard. The string should pass these poles free, so that the wind will not break the twine.

"The cost of preparing a yard in this manner is as follows: 750 feet lumber for stakes, at $15@$20; gas tarring stakes, $2; 25 pounds twine, at 30 cents, $7.50; setting stakes, $1; putting on twine, 50 cents; right per acre, $10. Total cost, after setting vines, $36. Cost of yard with long poles, 1,400 poles, 20 cents each, $280; sharpening, $10; setting, $7. Total cost, not counting hauling—after setting vines, $297."

The directions for cultivating the hop yard the second year will be given next month.

LIME FOR WHITEWASH in the spring should be slaked now. Take quick-lime in lumps; start the slaking with hot water, and add more as needed to bring it to a creamy consistence. Do this in a half barrel or similar vessel; stir it well, cover and leave it in a still place, undisturbed until wanted for use. A crust of carbonate of lime will form on the surface; this will have to be skimmed off. Lime prepared in this way becomes smoother and softer, the gritty portions and particles imperfectly burned settle to the bottom, and the slaking is more complete than if slaked at the time it is used, and for nice work it is much preferable to lime slaked at the time it is wanted for application.—*American Agriculturist.*

GARDEN WORK FOR APRIL.

APRIL is emphatically the gardener's seed-time. It is not of the highest importance that any seeds should be sown in the open ground in March, only as we get some varieties disposed of, so that we shall not be too much crowded in April.

I never could get peas fit for the table much, if any, earlier by sowing in March, than in the early part of April. I have sown the Dan. O'Rourke variety all along from the 25th of March till the 12th of April, and have generally picked the first from the 13th to the 16th of June—the time of picking depending not so much on the time of sowing as on the state of the weather while they were growing.

If your lettuce, peas, onions, spinach, beets and radishes were sown last month, you will be ready to attend to the following varieties this month:—Asparagus, lettuce for succession, rhubarb, brocoli, brussels sprouts, cabbage, cauliflower, celery, cress, kale, kohl rabi, early turnip, radish for succession and potatoes.

Sow in hot-bed, tomatoes, celery, cucumbers and melons, and weed out those sown last month.

Cucumbers and melons should be planted on inverted sods, placed directly on the manure.

Cut tough sods, about six inches square and four inches thick, place them on the manure until heated through.

Cucumbers.—Sow Early White Spined and Early Russian, pretty thick on the sod, and cover about three quarters of an inch with loam. It is well to stick a small stick in the centre of the sod to mark its place.

Melons.—Sow Fine White Japan and Jenny Lind musk-melons, and Early Mountain Sprout and Goodwin's Imperial water-melons, the same as cucumbers.

Tomatoes.—The Early Smooth Red is the earliest, and the reader will find other varieties mentioned in the February number.

OPEN GROUND.

Asparagus.—Soak the seeds in warm water a few hours, and sow in drills 1½ inches deep and 15 inches apart. If the ground be rich, and they receive good culture through the season, they will be in best condition to transplant when one year old.

Transplanting.—One year can be gained by purchasing strong one year old plants at a nursery, at a cost of from one to two dollars per hundred. Two hundred roots will plant a bed large enough to furnish a liberal supply to a family of six. Dig trenches for the roots two feet apart and eight inches deep. Fork into the subsoil in the bottom of the trenches a good quantity of fine manure. Place the roots in the trenches 15 inches apart, and cover so that their crowns shall be four inches below the surface of the ground. This will admit of the surface being dug over every spring without disturbing the plants. About 20 lbs. of salt should be sown to the square rod. Old beds should have the manure spread on the surface last fall dug in.

Rhubarb.—Linnæus is the best. Prince Albert and Victoria good. Sow in drills 15 inches apart, cover one inch deep, and when well started, thin to four inches. Transplant one year old plants this month, three feet each way. Plants raised from the seed will vary a little from the parent. The most certain way of getting the right kinds is to divide old roots. Rhubarb can be forwarded very much by placing a headless barrel over the hill, and surrounding it with warm manure. In cutting for use, leave a few stalks in each hill, to maintain the vigor of the plant.

Brocoli.—Sow Early Purple Cape and White Cape, in shallow drills eleven inches apart.

Brussels Sprouts.—Sow the latter part of the month, the same as brocoli.

Cabbage.—Sow in open ground, in the early part of the month, if without a hot-bed, those varieties mentioned last month for hot-bed. Towards latter part of the month, sow for fall and winter's use, Large Flat Dutch, Large Late Drumhead, Drumhead Savoy, and Large Late Blood Red, in very shallow drills, eleven inches apart. When up, thin to three inches.

Transplant the latter part of the month from hot-bed plants started last month. Eighteen inches each way will answer. An hour or two before transplanting, thoroughly saturate their bed, in hot-bed, with water, take up with trowel or the fingers, and set a little deeper than they stood in the hot-bed, and *press the earth firmly around their roots.*

Cauliflower.—Cultivate the same as cabbage.

Celery.—If not sown in hot-bed, should be started as soon as possible, in a rich, mellow bed.

Cress.—Curled Grass, Broad Leaved, and Broad Leaved Winter, are the sorts. Should be sown in shallow drills 15 inches apart.

Kale.—Cottager's is cultivated exactly like cabbage.

Kohl-rabi.—Sow Large Early Purple, Large Early White, and Large Late Green, any time from April to July, and treat the same as cabbage.

Early Turnip.—Sow Red-Top-Strap-Leaf, in shallow drills eleven inches apart, and thin to three.

Potatoes.—The latter part of the month, the Early Sovereign, Ash-Leaved Kidney, Early Cottage, and Early Dykeman, can be planted. A little horse manure under each hill will hurry them along.

SMALL FRUITS.

Look well to the small fruits. The large fruits are becoming so uncertain—the apple so often fails—the pear is suffering so much from the blight—the peach comes around not much oftener than the seventeen-year locusts—it certainly behooves the gardener to cultivate liberally those small fruits that are most certain to bear uniform crops.

Currants.—In some localities, the currant is becoming the least reliable of all fruits, owing to the ravages of the currant worm. Many have tried dusting the leaves with *hellebore*, with good success. If it is an effectual remedy, it cannot be too widely known, for this wholesome fruit has almost disappeared from Western New York. Red Dutch, Cherry, La Versailles, Prince Albert, White Dutch, and White Grape, are the best varieties. They can be started from cuttings, or roots can be procured at the nurseries. Transplant with care, using the fingers, freely, in adjusting the roots and working dirt among them. Old bushes should be hoed or dug around, and trimmed.

Gooseberries.—The English varieties are best, but unreliable on account of their tendency to mildew. The American Houghton Seedling is free from mildew, and uniformly productive, but inferior in size and flavor. Crown Bob, Roaring Lion, Red Warrington, Golden Drop, Green Ocean, and White Smith, are the better English sorts. The gooseberry likes a rich, moist, cool soil, and is improved by summer mulching and thorough pruning.

Grapes.—The Delaware, Concord, Hartford Prolific, and Isabella, are the better sorts. The Iona and Israella—seedlings of Dr. Grant—are very promising new varieties, and in some localities the Diana and Rebecca are excellent. The soil should be deep, rich and dry. About six feet apart is the distance for garden culture. Strong two-year old vines are the best for transplanting. Cut back to two eyes. To make the greatest growth of vine, tie them up perpendicular. Old vines will bear best by being trained horizontally.

Strawberries.—Jenny Lind, Bartlett, Triomphe de Gand, Wilson's Albany, and Russell's Prolific, are the better sorts. If the gardener makes up his mind to cultivate in hills, cutting off the runners weekly—by which method the largest crops are realized—transplant 18 inches each way, keep the weeds down, and as the berries commence ripening, strew a little cut straw, marsh hay, saw-dust, or tan-bark between the hills, to keep the berries clean and retain the moisture in the ground. They will bear, lightly, the first year, and a full crop the second and third years. If the runners are *not* to be kept cut off, plant in rows three feet apart, 15 inches in the row, allowing the runners to extend one foot on each side. That will leave a path a foot wide between the rows, to admit of cultivating the plants, and picking the fruit without treading on the vines.

Raspberries.—Old plantations, if not attended to last fall, should have the old canes broken out, and the weaker new ones cut, leaving four to six of the stronger ones to bear fruit. In making new plantations, the Doolittle, or Improved Black Cap is hardy and productive, while among red and yellow varieties, the Red Antwerp, Fastolf, Franconia, and Brinckle's Orange, take the lead. Plant in a rich soil, four feet each way, and cut down the canes to within four to six inches of the ground.

Blackberries.—Old plantations should receive similar treatment to raspberries, and new ones made of Dorchester, New Rochelle, and Newman's Thornless. About New York they have a new variety, which they highly commend, called Kittany. I presume that W. S. Carpenter, of New York, could furnish it to amateurs.

If every one should produce a surplus of the small fruits, canning them, the failure of large fruits would not be so great a loss. P. C. H.

DESTROY THE CATERPILLARS NOW.

THE American tent caterpillars or lackeys, so destructive to the early foliage of wild cherry trees and apple trees, become moths in July, and lay their eggs on the twigs of the wild cherry and apple in July and August, as represented in the accompanying cut. Various methods for the destruction and extermination of these pests are resorted to by thrifty and enterprising farmers and gardeners; and, to be successful, they should be universal. One of the most effective methods to prevent their ravages, is to seek the eggs of the moths during these fine spring mornings, which, when found, as they easily may be, especially in young orchards, clip the twigs wherever they are deposited with a sharp instrument, and burn them. Nurseries may thus be cleared of them. Shears and a knife, with basket in which to place the twigs, and a ladder, are the equipments necessary for this important work. Let

it be done this month, as farmers have more time to attend to it, and besides it is less and pleasanter work than after the eggs are hatched into devouring worms, for then is seed time pressing with its multifarious demands for labor. Not only apple trees, but all the wild cherry trees on and about the farm premises, should be thoroughly, diligently, and most carefully searched, that this evil may be prevented in its embryonic state.—*Boston Cultivator.*

EARLY MELONS AND SQUASHES.

MELONS, cucumbers and squashes, as gardeners well know, are very difficult to transplant. Their roots quickly spread in every direction, and they are sensitive to the mutilation they must necessarily receive when the work is done in the ordinary manner. Various expedients have been resorted to. One, which has succeeded tolerably well, is to plant the seeds in an inverted piece of turf, embedded in the earth of a hot-bed, and before many leaves are made, to remove the young plants, with the pieces of turf, to the open ground. There are but two difficulties here. The turf does not allow the plants to become large enough before removal; and grass is apt to spring up from the pieces.

A better way is to make small open baskets, set them in the hot-bed, and plant the seeds within them. The baskets do not impede the roots, and when the plants are large enough, the whole, basket earth and plants, is removed and set in a hole previously cut in open ground. The baskets are

Fig. 1. Fig. 2. Fig. 3.

easily made by tying together with twine, as shown in fig. 1, two basket splints, basswood or other bark; then with another piece tied together at the ends, form the hoop, fig. 2; thirdly, bring the ends of the two first mentioned pieces down over this hoop, tying by twine, and the basket is made, (fig. 3.) If the soil is light and friable, it will be necessary to interweave a few more splints or twigs; but if tenacious, a more open basket will do. An active hand will make many of these baskets in an hour; and they will not only give earlier results, but save largely from squash bugs and other insects.—*Rural Affairs.*

ORCHARDS on northern slopes are, as a general rule, less liable to injury from the vicissitudes of the weather than those on southern slopes. One reason of this is that the buds do not start so early in the spring, and are therefore less likely to be affected by the cold winds and frosts of early spring.

GARDEN WORK.

THE *Gardeners' Monthly* gives some good hints for garden operations, a part of which we quote:

Preparing ground is, of course, the first thing in order.

If flowers have been growing in the ground for many years, new soil does wonders. Rich manure makes plants grow, but they do not always flower well with vigorous growth. If new soil cannot be had, a wheelbarrow of manure to about every fifty square feet will be enough. If the garden earth looks grey or yellow, rotten leaves—quite rotten leaves—will improve it. If heavy, add sand. If very sandy, add salt—about half a pint to fifty square feet. If very black or rich from previous year's manurings, use a little lime, about a pint slacked to fifty square feet.

If the garden be full of hardy perennial flowers, do not dig it, but use a fork, and that not deeply.

Dig garden ground only when the soil is warm and dry. Do not be in a hurry, or you may get behind. When a clot of earth will crush to powder as you tread on it, it is time to dig—not before.

If perennial plants have stood three years in one place, separate the stools, replanting one-third, and give the balance to your neighbor who has none.

Set out the annuals you may have got forward in windows or frames—that is the hardy ones. The plan used to be to set out in a shower; but that plan is barbarous. No wonder with such old fogyish rules our handsome young ladies are disgusted with gardening. Let the girls lift the seedlings carefully from the soil in the pots, set the roots in a saucer of water, take them to their assigned places in the garden, and from the water dibble them at once in. Cover for twenty-four hours with an inverted flower-pot—next day cover only six hours during the middle of the day,—next but an hour or so during hot sun, if there be any; and the plant is safe. Study the differences between hardy and tender annuals. The latter must be set out only in April. In the North—extreme north—also of course, our rules are too early. Go by the season, not the almanac. Plants that have been covered by leaves may be undressed if they show signs of growth, which is the best rule for uncovering all kinds of protected plants.

Prune shrubs, roses and vines. Those which flower from young wood, cut in severely to make new growth vigorous. Tea, China, Bourbon and Noisette roses are of this class. What are called annual flowering roses, as Prairie Queen and so on, require lots of last year's wood to make a good show of flowers. Hence, with these, thin out weak wood, and leave all the stronger.

To make handsome, shapely specimens of shrubs,

cut them now into the forms you want, and keep them so by pulling out all shoots that grow stronger than the others during the summer season.

Do not transplant extensively till the ground is warm and the buds are about to push. Many things die by exposure to winds for a few weeks before they have warmth to push roots and leaves into growth.

The rule for pruning at transplanting, is to cut in proportion to apparent injury to roots. If not much the worse for removal, cut but little of the top away. Properly pruned, a good gardener will not have the worst case of a badly dug tree to die under his hands. In a nursery, where these matters are well understood, trees "never die."

Box edgings lay well now. Make the ground firm and level, plant deep, with tops not more than two inches above ground.

Roll the grass well before the softness of a thaw goes away. It makes all smooth and level.

Graft trees or shrubs where changed sorts are desirable. Any lady can graft. Cleft grafting is the easiest. Split the stock, cut the scion like a wedge, insert it in the split, so that the bark of the stock and scion meets; tie a little bast bark around it, and cover with Trowbridge's Grafting wax, and all is done: very simple when it is understood, and not hard to understand.

BLIGHT IN PEARS.

At a recent meeting of the Ohio Pomological Society, Dr. Kirtland is reported as having talked of a new theory concerning the pear blight, based upon microscopic investigations by Professor Salisbury, showing that this disease is caused by the propagation and growth of minute fungi in the sap and alburnum of the trees, and giving facts supporting the theory. As a remedy or preventive of these diseases in fruit trees, Dr. K. said the use of copperas, in solution, as a wash for the bark, or syringing the leaves and fruit, was found very valuable; also the application of old iron, blacksmiths' sweepings, etc., to the roots. He expressed strong confidence that these applications would be found a complete remedy for the fire-blight in pear trees, that worst scourge of the pomologist.—*Gardeners' Monthly.*

We have no doubt that the blight is caused by a fungus in the sap and alburnum of the trees. And we think that the origin of this fungus is from decaying roots and other woody matter in the soil We have but little hope, however, that any external application will arrest the disease. Better use means to remove the cause. In the Rural Annual and Horticultural Directory for 1865, we have given our views on this subject more in detail.

DIANA GRAPES.

W. C. Strong, of Brighton, Mass., has in the *Gardener's Monthly* an article on Winter Grapes, in which he says of this grape:

But the grape of all others, which with certainty and with little care, remains plump and sound the whole live-long winter, is the Diana. This is the winter grape par excellence. With us it is rather late in maturing, and this with some inequality; some of the berries in each bunch being scarcely ripe at the very close of ordinary seasons. Yet I have found these scarcely matured berries become quite eatable in mid-winter,—not equal to those fully colored, but very passable. The excellent keeping qualities of this kind depend undoubtedly upon the thickness of its skin. This is such a protection to it, that with the most ordinary care it keeps more perfectly than the Baldwin apple. I should treat them simply as follows: Cut them just to avoid the frost; trim out all imperfections; pack closely, single layers in shallow boxes or drawers; leave them open in a cool room for a few days to allow moisture to pass off; then close and keep in a cold dry room until April, if you consult your purse and can govern your appetite so long a time. The quality of the Diana is universally esteemed. It will ride any distance to market. When its keeping qualities are taken into account, is it not worthy of more attention?

The Gardeners of Scotland have determined to hold in Edinburgh, in the month of September next, a Great International Fruit and Flower Show, in connection with the Horticultural Society of Edinburgh. The exhibition is fixed for the 6th of that month. In the class of foreign grown fruits, £5 are offered for collections of grapes, pears and of apples. In the class devoted to home-grown fruits, there are 54 prizes offered for grapes, 14 for general collection of fruits, 9 for pineapples, and others in proportion. The London *Gardener's Chronicle* says "the display of grapes alone would be worth a journey to Edinburgh to see."

Lady Bugs.—Whatever else you destroy in the insect line, never injure a lady bug; for in its larvæ, its pupa, (two stages of its metamorphoses,) and its insect states, it feeds upon the *aphis*, (the plant-louse or "vine-fretter,") that is so pestilent in gardens and green-houses, and even in window-gardening among parlor plants. Every child knows the lady-bird as well as the zoologist, who calls it "coleopterous," that is, sheath-winged—having its wings under cover of a pair of shells running longitudinally. The wings are of various brilliant colors, generally between orange and deep red. It belongs to the same genus of insects as the beautiful cochineal.

Ladies' Department.

LITTLE FOXES.

Mrs. Stowe, in her "Chimney Corner Papers" in the *Atlantic Monthly*," has some excellent talks on the "Seven Little Foxes" which eat the vine of domestic happiness. Fault-finding is the first she treats of.

"Fault-finding—a most respectable little animal, that many people let run freely among their domestic vines, under the notion that he helps the growth of the grapes, and is the principal means of keeping them in order.

"Now it may safely be set down as a maxim, that nobody likes to be found fault with, but everybody likes to find fault when things do not suit him.

"Let my courteous reader ask him or herself if he or she does not experience relief and pleasure in finding fault with or about whatever troubles them.

"This appears at first sight an anomaly in the provisions of Nature. Generally we are so constituted that what it is a pleasure to us to do it is a pleasure to our neighbors to have us do. It is a pleasure to give, and a pleasure to receive. It is a pleasure to love, and a pleasure to be loved; a pleasure to admire, a pleasure to be admired. It is a pleasure also to find fault, but *not* a pleasure to be found fault with. Furthermore, those people whose sensitiveness of temperament leads them to find the most fault are precisely those who can least bear to be found fault with; they bind heavy burdens and grievous to be borne, and lay them on other men's shoulders, but they themselves can not bear the weight of a finger.

"Now the difficulty in the case is this: There are things in life that need to be altered; and that things may be altered, they must be spoken of to the people whose business it is to make the change. This opens wide the door of fault-finding to well-disposed people, and gives them latitude of conscience to impose on their fellows all the annoyances which they themselves feel. The father and mother of a family are fault-finders, *ex officio;* and to them flows back the tide of every separate individual's complaints in the domestic circle, till often the whole air of the house is chilled and darkened by a drizzling Scotch mist of querulousness. Very bad are these mists for grape-vines, and produce mildew in many a fair cluster.

"Children are more hurt by indiscriminate, thoughtless fault-finding than by any other one thing. Often a child has all the sensitiveness and all the susceptibility of a grown person, added to the faults of childhood. Nothing about him is right as yet; he is imature and faulty at all points, and everybody feels at perfect liberty to criticize him to right and left, above, below, and around, till he takes refuge either in callous hardness or irritable moroseness.

"A bright, noisy boy rushes in from school, eager to tell his mother something he has on his heart, and Number One cries out—

"'Oh, you 've left the door open! I do wish you would n't always leave the door open! And do look at the mud on your shoes! How many times must I tell you to wipe your feet?'

"'Now there you 've thrown your cap on the sofa again. When will you learn to hang it up?'

"'Don't put your slate there; that is n't the place for it.'

"'How dirty your hands are! what have you been doing?'

"'Don't sit in that chair; you break the springs, jouncing.'

"'Mercy! how your hair looks! Do go up-stairs and comb it'

"'There, if you have n't torn the braid all off your coat! Dear me, what a boy!'

"'Don't speak so loud; your voice goes through my head.'

"'I want to know, Jim, if it was you that broke up that barrel that I have been saving for brown flour.'

"'I believe it was you, Jim, that hacked the edge of my razor.'

"'Jim 's been writing at my desk, and blotted three sheets of the best paper.'

"Now the question is, if any of the grown people of the family had to run the gauntlet of a string of criticisms on themselve equally true as those that salute unlucky Jim, would they be any better natured about it than he is?

"No; but they are grown-up people; they have rights that others are bound to respect. Everybody can not tell them exactly what he thinks about everything they do. If every one could and did, would there not be terrible reactions?"

Rice Pudding.—In a former paper you have an article from the *Prairie Farmer* about making rice pudding without eggs. We never use eggs; our plan is as follows: We wash a half pound of rice, and put it in a broad, shallow tin pan holding four quarts, (we have a large family,) with a large teacupful of sugar and a half teaspoonful of salt. Fill the pan up with milk, fresh from the cow is best, and set in the oven or stove to bake, stirring it occasionally and trying the rice. When the latter is soft and begins to thicken the milk, the pudding is done. If it boils too long, or there is too much rice in it, it will be too thick to be good. You can spice it if you choose. It is excellent.—E., *in Germantown Telegraph.*

Sally Lum.—Three pints of flour, three teaspoonsful of cream-tartar, one and a half teaspoonful of soda, butter the size of two eggs, a cup of sugar, four eggs, a pint and a half of milk. Rub the cream-tartar into the flour, and dissolve the soda in the milk. Bake in round tins like cake.

Apple Float.—One pint of stewed apple, strained, and the white of one egg. Beat them together until the mixture is as light as whipped cream, and fill in jelly glasses. A very handsome dish for dessert.

How to Keep Hop Yeast from Souring in Hot Weather.—Stir into the yeast as soon as it is ready to set away after being made, one tablespoonful of common salt for every quart of yeast.

THE WRESTLERS.

A GAME FOR CHILDREN.

MATERIALS.—Two large corks, some thin card-board, small pieces of various materials, water-colors.

This game consists of two small heroes in cork and card-board, to whom a piece of thread about three yards long is attached, causing them to put themselves into all sorts of contortions. This thread (whether white or black it should be very strong) is passed through the crossed arms of the little men, and is fixed at one end to the floor by means of a small nail or tack, while the other end is held in the hand, rather slanting. By slightly drawing the thread, the move-

ments of the wrestlers are rendered easier; but practice alone will teach this, and we must warn our readers not to draw the thread too tightly, as this would cause the little men to fight too desperately. Let us now explain how they are to be made: Take for the bodies good corks, three and a half inches long. They must be of the same size and *the same weight*, as it is necessary for them to keep their equilibrium. A face should be painted on the top of the corks (it is unnecessary to have a great talent for painting to do this.) Next, they must be dressed. A strip of linen two inches long, and gathered round the figures, serves for

Fig. 2—The Leg.

Fig. 3.—The Arms.

a skirt; it is fastened by pins. The under part of the body is hidden by a small piece of black silk; it is fastened to the skirt, which is pulled down tightly underneath. The toilet is completed by a band made with a colored ribbon, and by a little cap, the shape and color of which may vary according to the taste of the worker, and which is also put on with pins. Next cut out the arms and legs in thin card-board from the illustrations 2 and 3. As the arms are drawn crossing each other, two similar pieces only should be cut out, but four legs are required. The part represented black in the pattern for the legs is covered with India ink, and the two pieces for the arms are painted in water-colors, as well as the shirt-sleeves. A pin is inserted in each

leg, and the same pin is fastened on each side of the wrestler's body, so that it may move easily. The arms are attached in the same manner to the shoulders, and in a very horizontal position. As a general rule these small dolls should be well poised, and every fold in their dress which might impede their movements carefully avoided. Now pass the long thread through the arm at the place marked by a small round, and fasten this thread to the floor in the manner already described, and make a knot in the thread about one yard from the end, to prevent the wrestlers from slipping about too much.—*Godey's Lady's Book.*

CLEAN HANDS.

When I was about six years old, a gentleman, who had called on my father to transact some business, perceived that my hands were dirty, and those of my brother Fred in the same condition.

"My boys," said he, "I hate dirty fingers; now if yours are clean when I call here again next Tuesday, I will make you a present."

As soon as it was light on the Tuesday morning, my brother and I got up and began to wash our hands. We used more soap that morning than we had used for a month before, and if ever our hands were clean they certainly were then. The gentleman did not come till dinner time, so we thought it better to have another scrubbing at our hands, and once more we were up to our elbows in soap-suds. The gentleman came, and after examining our hands, which had not a speck on them, he gave each of us five new, bright, sparkling pieces of coin, which we took to be golden guineas. They were only pocket pieces—but we were too young to know the difference—they were just as valuable to us, so we fancied ourselves to be as rich as Jews.

"Now, my boys," said he, "you see it is possible to keep your hands clean when it answers your purpose to do so. I should be ashamed of a boy who would be mean enough to wash his hands to make money, and not keep them clean to make his parents and friends comfortable. The love and good opinion of your parents and friends are worth all the money in the world."

I never forgot this good advice, and now record it that others may derive as much advantage from it as I have done.—*Juvenile Library.*

Personal Appearance.—Attention to one's outward appearance is one of the first elements of politeness. Want of cleanliness, slovenly or dilapidated attire, are an affront to the persons we approach. Anything like dirtyness—the very word offends—is utterly unpardonable and inadmissable. Man, naturally the nudest of animals, has necessarily the greatest need of personal neatness. Most of the nations of antiquity bathed daily, or oftener. Ablutions were, and still are, in many countries, a religious practice. Perfumes are quite gone out of fashion, being left to be used almost exclusively by persons of questionable health, or worse, of questionable character.

GOOD NIGHT AND GOOD MORNING.

BY R. M. MILNES.

A fair little girl sat under a tree,
Sewing as long as her eyes could see;
Then smoothed her work and folded it right,
And said, "Dear work, good night, good night."

Such a number of rooks came over her head,
Crying "Caw! caw!" on their way to bed;
Said she, as she watched their curious flight,
"Little black things, good night, good night!"

The horses neighed, and the oxen lowed;
The sheep's "Bleat! bleat!" came over the road,
All seeming to say, with quiet delight,
"Good little girl, good night! good night!"

She did not say to the sun, "good night!"
Though she saw him there, like a ball of light;
For she knew he had God's time to keep
All over the world, and never could sleep.

The tall pink foxglove bowed his head;
The violets curtsied and went to bed;
And good little Lucy tied up her hair,
And said, on her knees, her favorite prayer.

And while on her pillow she softly lay,
She knew nothing more till again it was day;
And all things said to the beautiful sun,
"Good morning! good morning! our work is begun!"

THE DANDELION.

"Ugly flower! I won't pick you!" said little Harry, as he pulled the daisies and buttercups in the meadow, and suddenly came to a fine large dandelion. The dandelion had done its best to look bright and gay all day, and it was very sad to hear its happy broad golden face found fault with like this.

"I wonder why nobody likes me?" it thought sadly; "every other flower is taken notice of, and I am left neglected and forlorn. I did not make myself, and I do not wish to be disagreeable. I wonder if any body will ever care about me, or shall I shut up my petals and die?"

"No, no," whispered the breeze which passed over it, "keep on hoping."

And just then a large bee came buzzing through the long meadow grass, and it rested on the yellow dandelion, and found some honey in its heart, and said, "Beautiful flower, I am glad I found you out;" and the dandelion held up its golden face to the sun, and said, "I have not lived for nothing."

God has given us all the power of being a comfort to somebody.

Why does a duck go under water? For *divers* reasons. Why does the same duck come out of the water? For *sun-dry* reasons.

When is a cigar like an old maid? When there is no match for it.

What best describes and most impedes a pilgrim? Bunyan.

Wanted.—A firkin of butter churned from the milk of roses.

When is a cat like a tea-pot? When your tea's-in it.

A Cheerful Measure—The horn of plenty.

Miscellaneous.

ENOCH ARDEN: BOILED DOWN.

Philip Ray and Enoch Arden
Both were "spoons" on Annie Lee;
Phil did not ful-fill her notions,
She preferred to mate with E.

Him she wedded and she bore him
Pretty little children three;
But becoming short of rhino,
Enoch went away to sea.

Leaving Mrs. Arden owner
Of a well-stocked village shop,
Selling butter, eggs and treacle,
Beeswax, whipcord, lollipop.

Ten long years she waited for him,
But he neither came nor wrote;
Wherefore, she concluded, Enoch
Could not longer be afloat.

So when Philip came to ask her
If she would be Mrs. Ray,
She, believing she was widowed,
Could not say her suitor "nay."

And a second time was married,
Gave up selling bread and cheese,
And in due time Philip nursed
A little Ray upon his knees.

But, alas! the long lost Enoch
Turned up unexpected-ly,
And was vastly disconcerted
By this act of biga-my.

Yet, reflecting on the subject,
He determined to atone,
For his lengthened absence from her
By just leaving well alone.

Taking to his bed, he dwindled
Down to something like a shade;
Settled with his good landlady,
Next the debt of Nature paid.

Then, when both the Rays discovered
How poor Enoch's life had ended,
They came out in handsome style, and
Gave his corpse a fun'ral splendid.

This is all I know about it,
If it is not sufficient, write
By next mail to Alfred Tenny-
Son, P. L., the Isle of Wight.

DISAPPOINTED.—A man applied to Dr. Jackson, the celebrated chemist, with a box of specimens. "Can you tell me what this is, sir?" "Certainly I can, sir; that is iron pyrites." "What, sir?" (in a voice of thunder.) "Iron pyrites." "Iron pyrites! And what's that?" "That's what it is," said the chemist, putting a lot on the shovel over the hot coals, where it disappeared. "Dross." "And what are iron pyrites worth?" "Nothing." "Nothing! Why, there's a woman in our town who owns a whole hill of that—and I've married her!"

HEAVEN bless the wives! they fill our hives with little bees and honey. They ease life's shocks, they mend our socks, but don't they spend the money? When we are sick they heal us quick—that is if they do love us; if not we die, and yet they cry, and raise tombstones above us."

AN urchin suffering from the application of the birch, said: "Forty rods are said to make a furlong. I know better; let anybody get such a licking as I've had, and he'll find out that one rod makes an *achre*."

DISSOLVING GENEROSITY.

HERE is the last illustration given by Mons. Alphonse Karr, the celebrated French writer:

"I have for my neighbor, in the country, a man who recently was seized with congestion of the brain. His old servant became alarmed, and had scarcely time to scream for help when she fainted. A workman named Norman went by, he leaped into the window, lifted up the two dying people from the floor, restored the woman to her senses, jumped on a horse, galloped to town and brought back a physician. My neighbor's life was saved. The workman returned to his task. I said to my neighbor: 'But for Norman you would have been a dead man. I hope you intend to reward him liberally?' 'Yes, indeed, I intend to give him forty francs.' I met my neighbor a few days afterwards, and said to him: 'Well, have you rewarded Norman?' 'No, not yet, but he will lose nothing by waiting. I said I would give him ten francs, and when I say a thing it is as good as done.' A week passed away. 'Have you seen Norman?' 'Norman—ah! Norman! No, I haven't met him yet; but I am fattening a rabbit—a first-rate rabbit. Oh, I'm not a man to forget a service.' A fortnight passed away. 'Well, is your rabbit fat?' 'As fat as a partridge. I ate it yesterday, and, I tell you, it has been a long while since I had such a tid-bit in my mouth.'"

THE recent report of a committee on grapes to the Ohio Horticultural Society thus sets forth the qualities of some seedlings that have been injudiciously named: "It appears to the committee that Lydia was rather acid, and Mary was pretty good, with a thick skin, and that Ellen was rather sub-acid, with a catawba flavor."

A LADY that would please herself in marrying was warned that her intended, although a good sort of a man, was very singular. "Well," replied the lady, "if he is very much unlike other men, he is much more likely to be a good husband."

THE brother of Beethoven signed his name to distinguish himself from his lawless brother, "—— von Beethoven, landowner." The immortal composer retorted by signing his, "Ludwig von Beethoven, brain-owner."

WHEN you see a man on a moonlight night trying to convince his shadow that it is improper to follow a gentleman, you may be sure that it is high time for him to join a temperance society.

"WHEN are you sure the smugglers have landed a cargo?" demanded a cockney of a custom-house officer. "When I seize it," replied the government punster.

GENTILITY.—There can not be a surer proof of low origin or of an innate meanness of disposition, than to be always talking and thinking of being genteel.

A DESPARING man tears his head. Old Jobus says an enraged woman is wiser—she tears her husband's.

The Markets.

GOLD has fallen to 148. This has brought down the price of nearly all kinds of produce. Several failures are reported in New York, and there is a great panic among speculators, and a general uneasiness is felt in mercantile circles. There is a general desire to force sales, while, as is always the case when prices tend downward, buyers will purchase only what they need for immediate use. Pork, in New York, fell $5.00 per barrel in one day!

In this city, owing to the great flood, little business is doing, and it is difficult to fix quotations. Clover seed sells for $15.00 per bushel; timothy seed, $6.00. Little is yet doing in potatoes, as the Eastern buyers have not arrived. They are *sold* in the stores at $1.00 per bushel, but 75 cents is all that is paid for them. Butter is down 10 cents ℔ lb. It now sells for 35 cents. Apples are becoming scarce, and the price ranges from $2.50 to $3.00 per bushel.

Geddes' Harrow.

AT the request of Mr. Hamilton we republished last month, from a previous volume of the *Genesee Farmer*, a description of the Scotch, Geddes' and the common square harrow, written by the late J. H. Bixby. We have received two or three letters inquiring where the Geddes' harrow can be obtained. We believe it was invented by the Hon. George Geddes, of Syracuse, but we do not know where it is manufactured. Another correspondent, George L. Scott, of Darlington, Md., wishes to build one, and desires us to give him the length of the pieces, angle of mortice, and how far to put the teeth apart. We should be glad if some one would give Mr. Scott the desired information.

"The Great Agriculturalist Strawberry."

OUR readers have all heard of this wonderful strawberry. There can be little doubt that it is all that is claimed for it in size, quality and productiveness. Of course it is not yet known how it will succeed in different localities, but it is certainly worthy of a trial. Mr. William S. Carpenter, of New York, will furnish genuine plants. See his advertisement on last page.

Shares' Harrow.

WE stated last month, in reply to an inquiry, that we did not know where Share's harrow was manufactured. We have since learned that it is made by Whittemore, Belcher & Co., of Boston, Mass. It is an excellent implement, especially on sod land. It can be obtained from John Rapalje, of the Genesee seed store, Rochester, N. Y.

Notes on the Weather from January 1, 1865, to March 1, 1865.

THE temperature and its extremes, storms and winds, special facts and results of comparisons, are objects of constant interest. As the weather of one half of a month often differs greatly from that of the other, the facts of the two halves are kept distinct, and the means and general averages are seperate.

JANUARY, 1865.

	First half.	Second half.	Month.	
Mean	23.32°	18.04°	20.60°	
General average	25.88°	24.97°	25.34°	
Highest temperature	37.00°	43.00°		
Highest mean	34.33°	36.33°		
Lowest temperature	4.00°	4.00°		Water, 2.33 in.
Lowest mean	14.00°	7.00°		

Before the end of the first week of January, sleighing was good over this section. The great snow-storm of the 10th and 11th was extensive, with snow nearly two feet perhaps, often greatly drifted, but sleighing good to the end of the month. Snow often fell. A cold half month, the mean being 5° below the general average for twenty-nine years.

The second half was only 1⅓° below the general average, and the cold not down to zero. A cold half month.

The range of the means of the first half of January is, in the twenty-nine years, from 15.9° to 36.7°, and the mean 25.5°; and of the second half is from 13.0° to 34.8°, and the mean 24.0°. From the least and greatest half monthly means, and from the monthly mean, the above table leads us to see the relative temperature.

FEBRUARY.

	First half.	Second half.	Month.	
Mean	19.98°	28.62°	24.27°	
General average	24.09°	27.24°	25.65°	
Highest temperature	42.00°	50.00°		
Highest mean	36.67°	42.00°		
Lowest temperature	2.00°	2.00°		Water. 1.74 in.
Lowest mean	9.00°	18.00°		

The first half of February was cold also, about 5° below the general average, and the second half was about 1.3° below the average. Another cold month. Sleighing continued, for the snow was often added, and a greater body of snow on the ground than had been seen for years. On the 14th the cold was 1° or 2° below, and on the 15th, at the second half, the heat was 3°. Two cold months of winter.

The range of the means in the first half of February was from 18.5° to 35.1°, and the mean 24.9°; and of the second half the range was from 12.1° to 38.0°, and the mean 27.2° in the twenty-nine years. The relative coldness is obvious on comparison.

February 20, near eight P. M., a splendid arch of aurora borealis across the north, the eastern part farthest south, above 50° perhaps above the horizon and disappeared in half an hour. Same the night following.

A CORRESPONDENT of the *Genesee Farmer* at Dwight, Ill., thinks if his neighbors would take the *Farmer* he should see fewer straw-stacks burnt up in the fall!

STATE FAIRS.—The Illinois State Fair is to be held at Chicago September 4–9, inclusive. The New York State Fair for 1865 will probably be held at Utica.

Inquiries and Answers.

SUBSTITUTES FOR HAY.—I lost my spring-sown clover last year owing to the severe drouth. I repeated the sowing in the latter part of the summer, but it is a partial failure. What is best to be sown for cutting and making into hay this year? If oats, how many per acre? when are they best sown, and at what stage cut? If corn, the like questions. Pray oblige me with answers in your next issue of the *Genesee Farmer*. Many of your readers are in the same position as myself, and any of your suggestions on the matter would be most serviceable.—WM. COOK, *South Cayuga, C. W.*

We would sow either Hungarian grass or oats. As you may not be able to get the seed of the former, you had better sow oats. Would put on a little more seed than for an ordinary crop—say three to four bushels per acre. Cut as soon as the crop has attained its full growth, but before the seed is matured. If peas were sown with the oats, say three bushels of oats and half bushel of peas, the fodder would be more valuable, but it is a little more work to cut the crop. If the land is not rich enough, put on half a ton of bone-dust per acre, or 300 pounds of Coe's superphosphate. You can get the latter from James Fleming & Co., of Toronto. Sow it broadcast at the time you sow the seed.

SUBSOIL PLOWING.—Do you consider it advantageous to subsoil light sandy and gravelly banks? If so, what kind of subsoil plow do you recommend for the purpose; and for clay loams, and where to be had?—INQUIRER, *Sandwich, C. W.*

We should be glad to hear from our correspondents on this subject. Much depends on the character of the subsoil. We think, as a general rule, there would not be much advantage in subsoiling "sandy and gravelly banks." But there may be instances where a tenacious subsoil prevents the descent of the water, and in this case, in conjunction with underdraining, subsoiling would be very useful.

HORSE PITCH-FORKS.—I have every year a good deal of grass to cut, and I find, since the introduction of mowers, that the hardest part of haying is to pitch off the load by hand. I have lately been thinking of buying a horse pitch-fork; but I know little about them, having never seen one in operation, and might find it worthless. Will you, through the *Farmer*, give your opinion of the value of them, or request the opinion of some of your correspondents?—L. H. TILLOTSON, *Canandaigua, N. Y.*

They are unquestionably very useful labor-saving inventions. You need not hesitate a moment about getting one. It will pay for itself in a couple of days. What say our correspondents?

BREEDS OF PIGS.—I would like to see an article in the *Genesee Farmer* on the different varieties of pigs.—R. B. CONN, *Meredosa, Ill.*

We should be glad if some of our correspondents would write a short description of some of the principal breeds of pigs. There are few men who could do it so well as Sanford Howard, if he could find the time.

EGG BOUND.—Will C. N. Bement, or some other of your correspondents, give us the reason or cause of hens getting "egg bound," as it is called. I had a young pullet the other day that could not discharge her egg. It was of ordinary size, and hung to her in a bag that enclosed it. Upon examination, I found a small hole in the bag at the end of the egg, and the egg being pushed in that direction came out without any trouble. It afterwards took two days' watching and washing, and returning the bag inwards, (as it kept coming out every hour or so,) and now she seems to do well and to all appearances is all right. Some say she will die. Is it so? What is the remedy for a hen in this case?—J. T.

Literary Notices.

AGRICULTURE OF THE UNITED STATES IN 1860. Compiled from the Original Returns of the Eighth Census, under the direction of the Secretary of the Interior, by JOSEPH C. G. KENNEDY, Superintendent of the Census. Washington: Government Printing Office. 1864.

We are indebted to Mr. Kennedy for an early copy of this valuable work. It shows the agricultural productions of every county in the United States for the year 1859, and also, for the sake of comparison, a recapitulation of the returns of the previous census for 1850, by which we are enabled to learn the progress made in agriculture during the ten years previous to the war, with much other information of great interest and value. It is a work that deserves to be profoundly studied by every one who wishes to understand the resources of the country upon which we most depend for meeting the burdens which the war has entailed upon us. Mr. Kennedy has accomplished his arduous task with great ability. In his preface and introduction he takes broad and statesman-like views of the agriculture of the country, and is entirely free from that common fault of our public men—a disposition to indulge in extravagant laudation. We hope to make liberal extracts from the work in future numbers of the *Farmer*.

WOODWARD'S COUNTRY HOMES. By GEORGE E. & F. W. WOODWARD, Architects. New York: GEORGE E. & F. W. WOODWARD, 37 Park Row. 1865.

Messrs. Woodward are experienced practical architects, and their position as publishers of the *Horticulturist* and their acquaintance with the wants of country residents, should enable them to give us plans for "country homes" that will prove useful to those about to build. The book is published in superior style. There are over thirty designs of houses, stables, &c., many of which have been erected under the supervision of the authors. If there is any fault in the book, it is one common to this class of works—a want of detail in the descriptions of the plans.

THE THREE SCOUTS. By J. T. TROWBRIDGE, author of "Cudjo's Cave," "The Drummer Boy," &c. Boston: J. E. TILTON & Co. 1865.

The scene of this novel is laid in the South-west. The three scouts whose exciting exploits are described, were a Kentucky farmer, a negro, and a Dutchman. The latter is the best character in the book. His adventures as a pedler in the rebel lines are very amusing, and the character is well sustained throughout. The book has few literary merits, but as the scenes are those of our own day, in which we are all interested, few who commence to read will lay it down until it is finished.

Goodrich's Seedling Potatoes.

WE would call the attention of our readers to the advertisement of Mr. D. S. Heffron, of Utica, N. Y., in regard to the seedling potatoes raised by the late C. E. Goodrich, of that city. There can be no doubt of the value of the varieties which Mr. Heffron names. The Early Goodrich and the Gleason are especially recommended by Mr. Heffron.

The Greeley Premiums.

THE award of the "Greeley premiums" is postponed until after the exhibition of the Horticultural Association of the American Institute, to be held the middle of September, the second Tuesday in November, and second Tuesday in December, 1865.

Grain Drills, Gang Plows, &c.

We would call attention to the advertisement of Mr. Draper Stone, of this city. He is agent for the well-know grain drills, gang plows, plaster sowers, &c., of the Messrs. Brown, of Shortsville, N. Y. He will be found at John Rapalje's Genesee seed store on South St. Paul street. Give him a call.

Smith's Seedling Gooseberry.

This is a new American variety, brought out by J. W. Manning, the well-known nurseryman of Reading, Mass. It is a seedling of the Houghton, and like it is free from mildew and a great bearer. It is of superior quality and of a large size.

Trial of Implements.

The prospects for a trial of implements by the New York State Agricultural Society the coming season are quite favorable. It will probably be held at Auburn.

Oporto Grape Vines.

The stock of Sylvester's Lyon Port, two years old, is so nearly exhausted that no more is for sale except to agents selling Oporto vines.

M. M. W., of Quincy, Ill., writes under date of March 10: "In this section the winter has been very fine, but it is feared the recent cold snap will hurt the fruit. Winter wheat, it is believed, has not been injured by the want of snow as much as was expected."

ADVERTISEMENTS.

A few short advertisements of interest to farmers—and only such—will be inserted in the Genesee Farmer at twenty-five cents a line, or $2.50 per square, or $25 per column, each insertion, payable in advance.

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Published at Rochester, N. Y., by

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No. 2.

The property known as the A. J. Switzer & Co. Vineyard, containing about thirty-five acres on the shore of the Crooked Lake, on which about twenty-four acres are now set to Isabellas and Catawbas, including one acre of Delawares, set in spring of 1862.

Five acres of this vineyard will be in full bearing the next season, and ten acres more come into bearing then for the first time.

No. 3.

The property known as the Pine Point Farm, containing one hundred and sixty-eight acres of the choicest grape land, situate on the shore of the Crooked Lake, on which about twenty acres were set in spring of 1863.

All of this property has been selected with great care, and has been critically examined by competent and scientific men and pronounced of the first quality, and possessing the requisites of soil, exposure and climate essential for successful culture.

On this last named property is about ten acres of land, forming a point, with a steamboat landing and suitable and ample place for the manufactories, vaults and buildings of the Company.

This property is all situated on the hill-side, with a south-eastern exposure, and is contiguous to the lake and immediately on its shores.

The soil is dry and gravelly, resting upon calcareous rock. It requires no under drainage and very little manure.

The climate at this place is remarkably mild and salubrious. Fruits of all kinds have been cultivated here in great perfection, peaches and apricots ripening in the open air. The vine-growing district is embraced in a narrow strip of land on the slope of the hill-side, along the border of the lake, and the valley above it head, and an experience of over forty years demonstrates the successful culture of the grape here. The temperature is wholly different from that of the country adjacent, by at least ten degrees, and the Catawba and Isabella for many years have ripened perfectly in the open air, without laying down or covering of vines in winter.

The crop in the past has been almost wholly exempt from frost, the contiguity of the lake influencing the temperature; even the well-known frost of June, 1859, which devastated so large a portion of the whole country, not injuring the vineyards near the lake.

THE CULTURE.

The grape was introduced at this point about forty years ago, by Rev. William W. Bostwick, and both varieties, Isabella and and Catawba, successfully cultivated by him in the open air.

William Hastings also for many years continued the culture on the property, a portion of which is now in the hands of the Company. During all this time the crop has never failed, and thus far has been exempt from mildew or insects.

There are already several hundred acres of bearing vineyards in this district, and the crop has become a valuable and prominent part of the production of this region.

It is proposed by the Company to set from twenty-five to fifty acres of vineyard per annum, until the property is fully developed.

WINE AND WINE MAKING.

It is proposed to erect large and commodious cellars on the property the ensuing season, in time for the vintage of next fall.

The success which has attended the manufacture of wine in the United States, is a sufficient recommendation without detail.

Wine manufactured for some years past from grapes grown here has been highly commended, and has already acquired a reputation inferior to none in this country.

The protection furnished by Government to our own manufacture, and the universal public demand for a pure article, both of wine and brandy, give the Company every reason to believe that it will be successful.

ESTIMATES.

An acre of grapes in a good year will produce three and one half to four tons fruit, but a fair average yield is about two and one-half tons.

The price the past year has ranged from 15 to 25 cents per pound in New York, in the general market.

At 10 cents per pound (which they are worth to the Company for wine purposes) the production of one acre would be say $500. The Company can develop at least two hundred acres of bearing vineyards on their property, the products of *one half of* which in a single year at that price would be $50,000, exclusive of the manufacture of wine.

The gentlemen who have consented to take the management of this enterprise are most of them experienced in grape culture. Some of them are pioneers in this location. They are well known, and their names are a sufficient guarantee that the business will be vigorously prosecuted, as well as economically and honorably managed.

No pains will be spared to secure the most intelligent and competent men to carry on the business of the Company, and the manufacture of the best native wines and brandy, after the most approved American and European methods.

About $150,000 of the Capital Stock has been already subscribed. Books of subscription for the residue of the Capital Stock are now open at the First National Bank of Bath, New York, at par.

The Company will allow subscribers to the remainder of stock, at their option, the privilege of loaning from the Company three-fourths or less of the amount subscribed and paid in, on the security of the notes of subscribers on time, with interest at seven per cent., payable semi-annually, secured by assignment of stock as collateral. Notes if taken, payable in installments of one and two years. ap2t

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To the farmers of Pennsylvania, New Jersey, Delaware and Maryland, **Baugh's Raw Bone Phosphate** is not a new name. Its great efficiency as a Fertilizer, for all crops, has been for years past practically denoted by them in its *continued* use. We want no better assurance of the high appreciation in which it is held by Agriculturists than the fact of so constant an increase in the demand, from year to year, as our article has enjoyed, and it has been our main object to render it, in every respect, worthy of such a favorable estimation.
In order to give greater facility in the application of the **Raw Bone Phosphate**, we have, since the last season, succeeded in making it so fine and uniform as to be capable of drilling. Farmers will find this an important advantage.
The facilities for the manufacture of the **Raw Bone Phosphate** are now very complete, and we can fill large orders with promptness; but it is desirable that all orders should be sent in as early in the season as possible.
It is packed in bags and barrels, and may be had of any regular dealer in Fertilizers, (to whom we advise all farmers to apply,) or of the sole manufacturers,
BAUGH & SONS,
No. 20 SOUTH DELAWARE AVENUE,
PHILADELPHIA.
☞ The highest market price paid for Bones. mh3t

SUPERPHOSPHATE OF LIME,
BONE DUST AND MEAT AND BONE COMPOST.
MANUFACTURED BY
TASKER & CLARK,
Cor. 8th and Washington Sts., Philadelphia.
THE manufacturers offer their Superphosphate to the public confident that it will be found equal to any similar article now in the market. Being made from finely ground bones (not burned), Peruvian guano, and other ingredients having manurial properties, it has been found a superior fertilizer for wheat, grass, &c., &c. Price $65.00 per tun at the factory.
MEAT AND BONE COMPOST.—A valuable manure from refuse meat, bones and other offal from the slaughter-house. Price $40 per tun.
BONE DUST—Very fine and pure at $65.00 per tun.
☞ Terms Cash. Address as above,
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TO FARMERS!
BRADLEY'S TOBACCO FERTILIZER, AND BRADLEY'S X L Superphosphate of Lime, are for sale at wholesale and retail by the Manufacturer. WM. L BRADLEY:
Sales Office 24 Broad street. Boston.
☞ Pamphlets containing testimonials in favor of his Tobacco Fertilizer, Bradley's X L Manual on the Culture and Curing of Tobacco, with Illustrations, can be had by addressing the undersigned. WM. L. BRADLEY.
☞ Highest Cash prices paid for Bones. my

BEECHER'S PATENT
VENEER FRUIT BASKET.
AFTER one season's thorough trial of the VENEER FRUIT BASKET, we offer it to the trade with the full assurance that nothing of the basket line now in market can compete with it in its adaptability to the wants of fruit-growers. For durability and style our Basket has no superior, and for strength and cheapness no equal.
For circulars of description, &c., address
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THE BEST AND CHEAPEST FARMING
LANDS IN THE WHOLE WEST, ARE THOSE OF NORTHERN MISSOURI.
REBELS are moving away, and are selling for whatever they can get. An extensive immigration from the Northern States and from Europe already begun, will soon occupy that part of the State and develop its immense natural wealth. Free and full information given on application to
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BAUGH'S

RAW BONE PHOSPHATE.

For all description of crops this article has been found, after years of trial, a most active and permanent Manure. We are gratified to be able to state that the demand for the

RAW BONE PHOSPHATE

last fall exceeded by many hundreds of tons that of any previous season, which is a substantial proof of its excellence and popularity. We are now in the midst of a very active spring season, and the demand is very pressing from all quarters. Farmers would do well not to delay their orders.

It is packed in bags and barrels, and may be had of any regular dealer in Fertilizers, (to whom we advise all farmers to apply,) or of the sole manufacturers,

BAUGH & SONS,

No. 20 South Delaware Avenue,

PHILADELPHIA.

The highest market price paid for Bones.

The following letter from one of the most successful agriculturists of New Jersey will speak for itself:

"Hammonton, N. J., May 23, 1864.

"Messrs. Baugh & Sons: Two years ago I wrote a short letter in our County Agricultural paper, giving my experience of two years with your Raw Bone Phosphate, and advising our farmers to give it a trial. Since that time I have given it a more extended application to crops, and the results have more than fulfilled my expectations.

"My farm is a light sandy loam. In its natural state it would not grow anything. Peruvian Guano will stimulate it to bear a good crop, but the second year it will require double the amount of Guano to produce the first year result. Barn-yard manure, glue waste, soap boilers' waste, are nearly exhausted in maturing one crop; but the Raw Bone Phosphate will mature two good crops, and the land will be made more valuable with each year's application.

"By using four hundred pounds of your Phosphate to the acre—one-half broadcast and the other applied in the hill, I have gathered one hundred bushels of ears of fine corn. I have nearly twenty acres of fruits of different kinds, and I now rely wholly upon your Phosphate to keep them in good health. I have two thousand pear trees, two acres of strawberries, two acres of blackberries, and six acres of grape-vines, and they are all in superb condition. If any farmer has better trees and vines than I have, he must have used your Raw Bone Phosphate.

"Applied to root crops the results are equally satisfactory. For turnips, cabbage, mangolds, tomatoes, it is every way more valuable than any other manure I have ever used; combined with marl it is a most superior manure for potatoes.

"I have tried several other Phosphates, among them some of the most popular in the country, but with very different results.

"Market gardeners and fruit-growers should certainly use Baugh's Raw Bone Phosphate. They would soon perceive a marked difference in the quality of their vegetables and fruits over those stimulated with cheap composts of night soil.

"Yours truly, JOSEPH R. NORTH, M. D."

J. B. LAWES'

ARTIFICIAL

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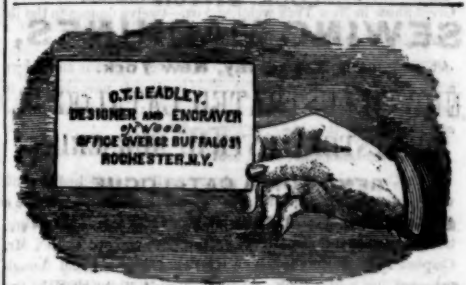
WHEAT,
CORN,
GRASS, and
VEGETABLES of all kinds.

☞ Farmers and Agriculturists from all parts of the country will be supplied on the most liberal terms, and all orders and inquiries promptly attended to.

RUFUS W. LEAVITT, Agent,
novtf 118 Wall Street, New York.



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Machinery, Implements, Cattle, Horses, Sheep, Poultry, Pigs, Buildings, Plants, Flowers, Fruits, &c., promptly executed in the highest style of the art, and cheaper than any other establishment in Rochester. Orders by mail promptly attended to.

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GOLD MEDAL

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NEW STRAWBERRIES.

GREAT AGRICULTURIST.

The Largest Strawberry in the World.

I exhibited in June last at the office of the *Agriculturist*, 41 Park Row, New York, at the great Strawberry Show, a plant less than ten months old, with two hundred and ninety-four perfect berries on it; this is about twice as many as has yet been produced from the Wilson, Russell, or any other variety, from a plant of the same age. The plant exhibited was no more remarkable in productiveness than a hundred others in my garden, which were examined by Charles Downing, W. F. Heins, Prof. Thurber, and P. B. Mead. The berry is a bright, glossy crimson, the size is enormous, the average berries exceeding anything ever before seen in the Strawberry line. Three berries exhibited at the Great Show in New York weighed 4 oz.—twelve ounces to the lb.

The *Agriculturist* of August, 1863, says:

"The plant itself bears large leaves, is very vigorous and shows a good bearing propensity. Taken all in all, this new seedling is probably the largest and most remarkable production in the strawberry way that has ever appeared."

From the same paper, July, 1864:

"Mr. Carpenter set out his plant in soil not enriched beyond what ordinary good culture requires, and last autumn it made a good share of new plants, the majority of which were, this spring, transplanted to a separate bed. A few days ago we visited Mr. Carpenter's place to see the condition of his plants, and though prepared for a fine show, the anticipation was far short of the reality. The small plants set out this spring showed a crop of fruit large enough to satisfy any one, while it is difficult to describe the appearance of those which had not been removed, in terms which shall not seem extravagant. These plants, not a year old, formed stools measuring at least eighteen inches across the leaves, and the very pictures of robust health and vigor, without a scorched or imperfect leaf upon them, and *filled* with rapidly swelling fruit. The stools on all sides and in the center were crowded with fruit stalks, each of them loaded, without an imperfect berry or a blast to be seen. Mr. Peter B. Mead counted the fruit on three contiguous plants, and found the astonishing number of 284, 248 and 294 berries to the plant. Such experienced fruit-growers as Charles Downing, Peter B. Mead and W. F. Heins, have visited these plants, and all agree in considering them as something unparalleled in the history of strawberry culture."

The plant from which my stock has been produced, exhibited remarkable bearing properties; nearly all the young plants bore fruit from June to October, the first season. Last season the young plants were constantly fruiting every month until frost.

I have a large stock of prime plants at the following rates:

2	plants	$ 1 20
6	plants	3 00
12	plants	5 00
100	plants	25 00
1000	plants	200 00

☞ All orders addressed to

WM. S. CARPENTER,
329 Greenwich Street, N. Y.

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The Large Illustrated Circular of the Bee-Keepers Text-Book, (just published,) and the American *Nucleus Swarming*, side opening, movable Comb Bee-Hive. **Also of Italian bees.**

"THE BEE-KEEPER'S TEXT-BOOK" is a very useful and valuable work. Written in a plain and concise style, it gives just the information that young bee-keepers require, and which old ones may read with advantage.—*Genesee Farmer.*

A NEW publication of 130 pages. We are convinced that it contains all the latest information needfull to carry on the operations of the apiary.—*Iowa Homestead.*

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It contains much information of great practical benefit to all bee-keepers.—*Prairie Farmer.*

WE recommend it to all apiarians as a practical and reliable guide.—*Maine Farmer.*

YOUR ideas on wintering bees are very valuable, and must be of great use to us on the prairies.—M. L. DUNLAP, *Editor Illinois Farmer.*

WE confess to having been very much surprised and instructed. No one keeping bees should be without this book.—*New Hampshire Journal of Agriculture.* 1t

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At the Genesee Seed Store, Rochester, N. Y.

I HAVE now on hand for the spring trade one of the best assortments of Seeds ever offered in this market, comprising all the Vegetable Seeds usually sold in this country. Prices to suit the times.

500 lbs. Large Red Onion, early and late.
200 lbs. Yellow Dutch Onion.
50 lbs. Yellow Strasburg Onion.
200 bush. Black-eye Marrow.
100 bush. Irish Marrow.
150 bush. Early Washington.
50 bush. Prize Taker.
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sp1t J. RAPALJE